

**CELEBRATION
OF SCHOLARSHIP
& CREATIVE ACTIVITY**

April 25, 2019

**26th Annual Event
Abstracts Booklet**

UNIVERSITY OF
WISCONSIN

OSHKOSH



CELEBRATION OF SCHOLARSHIP & CREATIVE ACTIVITY

Table of Contents

<i>Anthropology</i>	<i>1</i>
<i>Art</i>	<i>1</i>
<i>Biology</i>	<i>2</i>
<i>Chemistry</i>	<i>6</i>
<i>Communication Studies</i>	<i>9</i>
<i>Education</i>	<i>10</i>
<i>Engineering Technology</i>	<i>10</i>
<i>English</i>	<i>11</i>
<i>Foreign Languages and Literatures</i>	<i>12</i>
<i>Geography</i>	<i>12</i>
<i>Geology</i>	<i>13</i>
<i>History</i>	<i>15</i>
<i>International Studies</i>	<i>15</i>
<i>Journalism</i>	<i>15</i>
<i>Kinesiology</i>	<i>16</i>
<i>Music</i>	<i>16</i>
<i>Nursing</i>	<i>17</i>
<i>Physics and Astronomy</i>	<i>18</i>
<i>Political Science</i>	<i>19</i>
<i>Psychology</i>	<i>19</i>
<i>Sociology</i>	<i>24</i>
<i>Index of Presenters</i>	<i>27</i>

Posters are displayed from 8:30 a.m. to 4:00 p.m. in the Reeve Ballroom.

Visual Art exhibits are in the Reeve Ballroom from 8:30 a.m. to 4:00 p.m.

Poster and Visual Art presenters will be available to discuss their work from 11 a.m. to 1 p.m.

* Denotes a recipient of the FY 2018–19 Student/Faculty Collaborative Research program grant and Small Grants awarded by the Office of Student Research and Creative Activity.

♦ Denotes a graduate student.

The Universal PMI: The Effects of Variation and Climate on Decomposition

Melanie Gruenstern* (Dr. Jordan Karsten)

Anthropology

Poster Presentation (P1)

Accurately determining the post-mortem interval is an issue that plagues forensic anthropologists and law enforcement alike, primarily because of the many factors that affect the rate of decomposition. In 2011, Arpad A. Vass sought to alleviate this problem by developing a Universal PMI Formula. His formulas, one for surface finds and one for buried remains, are designed with the purpose of allowing both forensic anthropologists and members of law enforcement to easily estimate the post-mortem interval for human remains discovered in the course of their work. After conducting a pilot study the summer of 2017 which tested this method, I concluded that Vass' Universal PMI Formula does not work in Wisconsin due to the differences in climate, particularly temperature and humidity. This past summer I expanded my previous experiment, and using six pig cadavers as human surrogates, I was able to track and analyze the variation in their rates of decomposition in order to better understand how it is affected by the area's climate. By doing so, I have more rigorously tested the Universal PMI Formula and its practical application in order to help us better understand how decomposition varies between regions and enhance our knowledge of the post-mortem interval.

Wire Woods: Inspiration by the Trees of UWO

Zel Billings* (Andrew Redington)

Art

Visual Art Presentation

Reeve Ballroom 227A&B (11:00 a.m. – 1:00 p.m.)

The goal of this project was to research, develop, and refine methods and strategies for artistically modeling various types of trees with wire through the process of cold-joining. Each piece is modeled after one or more unique aspects of trees here on the UWO campus.

Wire Weft: A Study in Cloth and Metal

Zel Billings* (Allison Welch)

Art

Visual Art Presentation

Reeve Ballroom 227A&B (11:00 a.m. – 1:00 p.m.)

The goal of this project was to research, develop, and refine methods and strategies for weaving metal wire into textile form. The project included experimentation and revision of process with interweaving traditional fiber and metal wire to create the final work.

Painting Mud

Noell Graf* (Craig Clifford)

Art

Visual Art Presentation

Reeve Ballroom 227A&B (11:00 a.m. – 1:00 p.m.)

The experimental method I focused on is a contemporary Japanese form of staining clay, Nerikomi or Neriage. Through this method, stains and chemicals are worked into wet clay used as a decorative technique to clay before firing.

“Painting Mud” is a contemporary form in mixing carbonates, oxides and stains at random with a variety of clay. This staining of stoneware and porcelain clay before kiln firing is a scientific process seen through the chemical changes presented when heated between 1500-2000 degrees. “Painting Mud” ceramics combines a scientific understanding of chemical interactions with the creative and experimental techniques attempted in the arts.

I attempt to create vibrant, blended colors through stained clay instead of the traditional method of glazing. Often, color is added to ceramics as an afterthought, achieved through glazes while “Painting Mud” presents color and experimentation as an immediate thought. My work demonstrates a beginning-to-end process of marbling clay through testing successes and failures. In receiving the Undergraduate Small Grant, I have been able to push experimentation with a wider range of chemicals and color. Through the research I conducted, I used multiple clays to enhance colors in a richer, more vibrant way.

Nature's Blueprint

Chloe Hirschberg* and Laura Tymmm* (Gail Panske and Allison Welch)

Art

Visual Art Presentation

Reeve Ballroom 227A&B (11:00 a.m. – 1:00 p.m.)

The research being presented was completed thanks to the University of Wisconsin Oshkosh

Undergraduate Small Grants program. We will show the results of a combination of traditional and contemporary techniques in order to create cyanotypes, also known as blueprints. The research includes tests used to refine our use of the traditional cyanotype process while also including experimentation with exposure times, image making techniques, and application techniques. These experiments allowed us to discover the most successful way to incorporate images into the printing process.

The cyanotype imagery reflects our personal interest in natural elements and are further designed from research on endangered animals. This allows us to teach our audience in an artistic way. Our cyanotype series combines the inner and outer structure of eight chosen animals in the form of a blueprint to signify the process itself. The overall result is a complete and balanced series of prints of experiments that had the most success.

Interactive Inflatable Sculpture Research and Experimentation

Shelby Weber* (Andrew Redington)

Art

Visual Art Presentation

Reeve Ballroom 227A&B (11:00 a.m. – 1:00 p.m.)

Over the span of several months I, along with the support and guidance of Professor Andrew Redington, conducted a series of experiments to support several theories and the research on the topic of large-scale interactive inflatable sculptures. Experimentation was done to test the durability and resiliency of many different kinds of fabric material as well as how the appearance changes as more materials are layered on top of one another. One of the biggest difficulties was contending with materials as they represent specific textures and surfaces on an object that will be 20 times its known size. A line of inquiry of how realistic these surfaces need to be in order to convey the idea is something that many artists who practice the craft of soft and inflatable sculpture pursue. Research was also conducted to learn how to baffle and support the large-scale structure while keeping its desired form. This, along with finding and testing a reinforcing seam adhesive that could withstand weather and harsh UV rays, were incredibly important in determining the capabilities of this project.

***Deinococcus* Habitat Distribution, Relative Abundance and Sequence Identity in Public Metagenomic Datasets**

Jane Ballesteros* (Dr. Sabrina Mueller-Spitz)

Biology

Oral Presentations Session I

Reeve Union Room 220 (8:30 – 9:30 a.m.)

Classified as an extremophile genus, *Deinococcus* members can withstand many environmental hazards and extreme conditions. Despite underrepresentation in microbial ecology, *Deinococcus* is known for its unique physiology, DNA repair, bioremediation potential, and quorum quenching abilities. However, many questions remain unanswered about *Deinococcus* habitat distribution and ecological interactions with other bacteria and humans. Building on these questions, our research aim was to assess *Deinococcus* habitat distribution and relative abundance in published bacterial community datasets. We relied on bioinformatics tools for analysis of the amplicon-based metagenomes. Forty-five percent of the 342 bacterial community datasets contained *Deinococcus* sequences, yet their relative abundance within individual datasets was extremely low. Most environments, like marine water, freshwater, and soil consistently accorded with previously reported *Deinococcus* isolation sites. Unexpectedly, *Deinococcus* sequences associated with the human body were detected in thirty-three percent of the samples, but only one previous study suggested the genus as a component of normal human flora. Phylogenetic analysis of 16S ribosomal RNA of our found *Deinococcus* sequences to known *Deinococcus* members indicated there may be clades of *Deinococcus* strains which have not been previously identified. Our work illustrates that *Deinococcus* is widely distributed, but low abundance taxon that extends beyond its extremophile classification.

Does Echolocation Result in Smaller Eyes in Whales?

Colin Baltz (Dr. Morgan Churchill)

Biology

Poster Presentation (P2)

In this study, we looked at the relationship between orbit size, which relates to the size of the eye, and the usage of echolocation in whales and dolphins. Whales forage in a variety of environments, from clear tropical waters to turbid rivers and deep oceans; due to this variation in habitat there is also variation in

usage of vision for hunting. It is expected that species who hunt in the deep sea or live in environments with lots of sediment particles rely more strongly on echolocation, and would have less need for vision and thus smaller orbit sizes. We measured the bony orbit of 129 different skulls, including 48 different species. Each measurement was performed 3 times and averaged across species, and divided by bizygomatic breadth to remove the influence of body size. Finally we mapped these results on a phylogenetic tree of whales to determine when changes in orbit size evolved. With our current data there is a major shift toward smaller orbit sizes within some river dolphins, while deep diving whales have similar eye size relative to other species. Future work will expand our sampling with the inclusion of additional fossil taxa, which will better demonstrate any evolutionary changes.

Quantifying Mast Cells during Obesity in Ground Squirrels

Aminata Bojang (Dr. Courtney Kurtz)

Biology

Poster Presentation (P3)

Obesity and type II diabetes are some of the major health issues in industrialized societies. Hibernators, like ground squirrels, serve as natural models of obesity during the summer when mass of white adipose tissue (WAT) rapidly increases. Our previous work found an increase in TNF α in WAT of ground squirrels late in the active season. We set out to determine whether mast cells are responsible for this increase. We hypothesized that the number of mast cells would increase in visceral but not subcutaneous WAT of obese ground squirrels. Toluidine blue staining was used to identify and count mast cells in WAT from 30 captive-born female 13-lined ground squirrels (*Ictidomys tridecemlineatus*). We also used H&E stained slides to measure adipocyte size as a measure of adiposity. Adipocytes were larger in iaWAT than in ingWAT, whereas mast cell numbers did not differ between depots. Furthermore, adipocyte size in iaWAT increased between early and late active season but the number of mast cells did not differ across the season. My results suggest that mast cells are not the primary cell type responsible for the increased levels of TNF α in visceral WAT of obese ground squirrels late in the active season.

A Genomic View of *Escherichia coli* Diversity from Dairy Calves

Jen Fossen* (Dr. Sabrina Mueller-Spitz)

Biology

Oral Presentations Session IV

Reeve Union Room 220 (9:30 – 10:15 a.m.)

Escherichia coli is a common, well-studied bacterial species. Despite the scientific community's familiarity with this model organism, there are still gaps in knowledge of *E. coli*, including its diversity within the gastrointestinal tract of dairy calves. From this particular environment, *E. coli* can be transmitted into the food supply chain and when consumed can potentially cause human disease. The aim of this study is to determine how frequently pathogenic strains of *E. coli* are found in fecal samples of calves. Sixty-eight isolates recovered from five dairy calves ranging from 5 hours to 3 months old were confirmed to be *E. coli* through MALDI-TOF technology. Thirty-six isolates were further examined based upon high-quality reproducibility on the MALDI-TOF analyzer and genome sequence quality. These isolates displayed variations in virulence factors with an average of seven per isolate and 17 different serogroup types. Nine isolates from one calf all serotyped as O145 H28, a putative human pathogen. This finding points to an individual that could potentially contaminate an entire herd. While a majority of isolates are predicted to be non-pathogenic, this highlights the potentially unique *E. coli* signatures even when calves are reared in the same environment.

Habitat Use by Whooping Cranes (*Grus americana*) in Eastern Wisconsin

Matthew Gondek** (Dr. M. Elsbeth McPhee)

Biology and Environmental Studies

Oral Presentations Session I

Reeve Union Room 220 (8:30 – 9:30 a.m.)

Understanding habitat use by whooping cranes (*Grus americana*) in eastern Wisconsin is critical to their conservation. Since their reintroduction into central Wisconsin, whooping cranes have experienced two major problems including nest abandonment due to parasitic black flies and low chick survival. Available whooping crane habitat in central Wisconsin has become limited and has therefore prompted the release of cranes into eastern Wisconsin. Whooping cranes in eastern Wisconsin may use habitats differently than those in central Wisconsin because of

variation in land coverage and use between the regions. My research question is: Do whooping cranes in eastern Wisconsin use habitat differently than whooping cranes in central Wisconsin? Whooping crane pairs in eastern Wisconsin were tracked using VHF radio for the 2018 breeding season. The data were analyzed spatially using ArcGIS and home ranges were estimated using kernel density estimation. Habitat use by whooping crane pairs were determined by applying a buffer algorithm to crane location data, combined with land coverage data of Wisconsin. Preliminary results suggests that habitat use patterns by whooping cranes in eastern Wisconsin is different than that of cranes in central Wisconsin and that this variation is likely due to changes in available habitat and resource distribution.

The Effects of Anthropological Noise on Bird Feeder Ecosystems

Phillip Gruber* (Dr. M. Elsbeth McPhee)
Biology and Environmental Studies
Poster Presentation (P4)

Many different groups of animals are negatively affected by noise pollution because they rely heavily on acoustic communication. My study focused on the effects of anthropological noise on bird feeder ecosystems and how habitat affects the reaction toward that noise. I observed bird feeders at six different sites in city, agricultural, and woodland settings. I observed the feeders for an hour and for 20 minutes played either anthropological noise or pre-recorded wind noise. I measured whether or not behavior and/or species composition changed as a function of the noise. Birds in the city experienced an increase of individuals present during noise production. Birds in the agricultural and woodland habitats exhibited a decrease of individuals present during noise production, woodland birds showing a stronger response with proportionately more individuals vacating the area. These findings suggest that noise pollution could alter typical behaviors in birds depending on their habitat. These behaviors may range from avoiding an area with high amounts of noise to individuals exhibiting a decrease in reproductive success. As far as I know, this is the first study to investigate how noise levels and levels of development affect the number of birds present at a feeder.

The Influence of Road Salt on Organic Matter Decomposition and the Species Composition and Performance of Decomposers

Shelby McIlheran* (Dr. Robert Stelzer and Dr. Sabrina Mueller-Spitz)
Biology
Poster Presentation (P5)

Leaf litter decomposition is a fundamental part of the carbon cycle and helps support food webs. Disruptions in organic material breakdown can signal problems in other parts of ecosystems. One disruption is rising chloride concentration. Uptake of chloride by aquatic organisms can result in lethal or sublethal effects at high levels. While there are many studies about chloride's effect on fish and benthic organisms, how chloride affects decomposers is less well understood. My research objective was to assess how increasing chloride concentrations affect leaf decomposition. Specifically how microbes such as bacteria and invertebrates such as amphipods are affected by chloride. This was accomplished by experimentally manipulating chloride concentrations in microcosms only containing microbially colonized leaves or containing leaves and amphipods. Microcosms were set up for 1-2 weeks and variables such as respiration rate and microbial species composition were measured along with amphipod growth rate and mortality. Preliminary results show no significant difference in microbial respiration rates between treatments, but there was a significant difference in instantaneous growth rate, and 100% mortality in the highest amphipod chloride treatment. The implications so far are high chloride concentrations can have an effect on decomposition since amphipods were affected while microbes were not.

Phenotypic and Genotypic Diversity among Putative *Deinococcus aquaticus* Isolates from Metal Substrate in Fox River

Logan Pearson (Dr. Sabrina Mueller-Spitz)
Biology
Oral Presentations Session I
Reeve Union Room 220 (8:30 – 9:30 a.m.)

Biofilms are communities of microbes, surrounded by an extracellular matrix where individual members specialize in function. In an attempt to understand biofilm population diversity, a collection of

Deinococcus aquaticus was cultured from seven different habitats in the Fox-Wolf watershed. While the proteomic comparison separated into two co-occurring stable populations, their DNA fingerprints revealed no clear relationship for population structure. Our objective was to elucidate *D. aquaticus* biofilm population structure dynamics through phenotypic and genomic diversity in 27 isolates collected from an artificially submerged metal substrate. Genomic DNA was extracted from the *D. aquaticus* isolates and analyzed using genomic fingerprinting. The growth of each isolate was tested in various nutrient combinations and temperatures. Biofilm formation assays were performed. Isolates were characterized for capsule production. Even though all isolates naturally occurred on the same substrate in the Fox River, there was diversity in their genomes and overall growth strategies. Optimal growth conditions occurred at 28°C in TGY broth. Isolates showed great diversity in biofilm formation. The variations in genotype and phenotype of *D. aquaticus* support the idea of co-occurring populations. We predict that these isolates fulfill different roles in their natural niches.

Bald Eagle Prey Choice and Implications for Management of Endangered Whooping Cranes

Kasey Stewart** (Dr. M. Elsbeth McPhee)
Biology and Environmental Studies
Oral Presentations Session IV
Reeve Union Room 220 (9:30 – 10:15 a.m.)

Despite 15 years of efforts to increase the survival and recruitment of whooping cranes (*Grus americana*) in Wisconsin, the population has not experienced high enough reproductive success to become self-sustaining. Most of the population occurs at Necedah National Wildlife Refuge (NWR) in central Wisconsin, where chick mortality has historically exceeded 80%. In the summers of 2016, 2017, and 2018 whooping crane chicks were marked with radio transmitters to facilitate monitoring and recovery of carcasses for necropsy. Preliminary data indicate that predators such as bald eagles (*Haliaeetus leucocephalus*) play an important role in crane chick mortality. In the first two years of the study, radio transmitters of monitored crane chicks were tracked to bald eagle nests. Aggression between eagles and cranes is well documented, so it is possible that bald eagles are an important predator of cranes at Necedah NWR. Nest cameras built with Raspberry Pi

microcomputers were used to examine eagle prey choice over the course of their breeding season and investigate how the timing of these changes intersects with key events in the whooping crane breeding season. Changing management practices to increase the abundance of other eagle prey items could reduce predation pressure on cranes.

Evolution of Plant Responses to Unpredictable Environments

Hayley Vandeenboom* (Dr. Lisa Dorn)
Biology
Oral Presentations Session I
Reeve Union Room 220 (8:30 – 9:30 a.m.)

Phenotypic plasticity is the ability of a single genotype to produce multiple phenotypes in different environments. Factors causing plasticity early in a plant's life cycle can influence later stages. The plant species *Arabidopsis thaliana* germinates seeds in fall then flowers the following spring. If a seed doesn't germinate, the cold of winter induces rapid development the following spring to flower quickly. To respond to changes, plants will have to use existing genetic variation. My experiment asks if existing genetic combinations can produce an adaptive response to different environmental factors. I grew 10 replicates of 9 different genetic strains in 4 different combinations of expected (cold vs. no-cold) and unexpected environmental treatments (day-length gain or loss). Cold treated seeds "expect" an increasing day length following germination while seeds with no cold "expect" decreasing day lengths. I measured visible characteristics (phenotypes) like flowering time, lifespan, and fruit number (i.e. fitness) as well as molecular characteristics like gene expression of sensitive genes. I examined the response of each physical trait to the environment as well as the gene expression responses to the environment. Within each treatment combination, a correlation between fitness and a visible or molecular trait suggests genetic variation that is adaptive.

Epigenetic Influences on Plant Responses to the Environment

Angela Vickman (Dr. Lisa Dorn)
Biology
Poster Presentation (P6)

My research involves the molecular mechanisms that underlie a plant's responses to environmental changes, specifically asking about the role of

methylated cytosines in gene expression. Plants may respond to environments by changing the amount of a gene product (a protein) is produced to help them generate the appropriate behavior or physical structure (a phenotype) for that environment. For example, plants in extreme stress produce pigments, such as anthocyanins to protect their cells. The molecular mechanisms for changing phenotype with the environment (phenotypic plasticity) are not clear. I will address the question of how gene expression changes might influence phenotype changes using a set recombinant inbred lines of *Arabidopsis thaliana*. Recombinant inbred lines (RIL) are the result of crossing two genetically uniform inbred strains, allowing recombination to occur in the resulting hybrid then self-fertilizing each recombinant offspring to make inbred lines where all lines have fixed and different recombination events. Genes can be rearranged in different ways that vary from individual to individual and affect the protein product of those genes. Methylation can do this without changing the genetic sequence. I will be exploring if the rearrangements that cause phenotypic changes included the rearrangement of commonly methylated cytosines.

Brain Structure as a Novel Indicator of Pheromone Use in Longhorned Beetles (Coleoptera: Cerambycidae)

Doua Yang^{**} (Dr. Robert Mitchell)
Biology
Poster Presentation (P7)

Longhorned beetles (Family Cerambycidae) are a family of insects that feed in the stems and woody tissues of plants and include many destructive forest pests. Such pests might be effectively monitored and managed by attractive, pheromone baited traps, but not all species produce pheromones. Extensive research is necessary to prove pheromone usage and identify the active compound before its use in monitoring. My research objective is to accelerate pheromone research in longhorned beetles by identifying neuroanatomical characteristics associated with pheromone use. Insects detect pheromones and other odors via specialized regions of the brain called glomeruli, which are linked to a specific odor. Glomeruli linked to attractive pheromones are many times larger and are known as macroglomeruli. I will compare multiple species of longhorned beetles known to produce pheromones and those believed to not produce pheromones to understand if and how

macroglomeruli associate with pheromone production. I have identified certain species with possible macroglomeruli such as *Megacyllene caryae* and *Phymatodes testaceus* via preliminary results from confocal images. If macroglomeruli are associated with pheromone use, they would be a novel indicator to reveal whether a new species produces pheromones, and thus provide immediate direction in future research on its chemical ecology.

Cranial Shape Variation within “True Dolphins” (Delphininae)

Bailey Young (Dr. Morgan Churchill)
Biology
Poster Presentation (P8)

Rapid diversification makes it difficult to decipher evolutionary relationships within Delphininae (oceanic dolphins). To better understand their relationships, we performed morphometric analysis using 3D scans of skulls from 11 species of oceanic dolphins, then implemented principle component analysis (PCA) to assess variation in cranial anatomy. PC 1 score reflected robustness of the skull with shorter rostrum, which explained majority of our variation. PC 2 represents shape of the vertex and external nares, with *Sousa*, *Stenella longirostris*, and *Stenella attenuata* possessing positive scores. PC 3 reflects the anterior portion of the face and separates *Stenella* from *Delphinus* and *Tursiops*. PC 4 represents the length of the toothrow. *Sousa plumbea* USNM 550941 and *Stenella clymene* AMNH 239115 were the only genera, who were distinct along this axis. The most distinct genera in our experiment was *Tursiops*, *Lagenodelphis*, and *Sousa*; while *Stenella* and *Delphinus* were similar in cranial shape. Based on our findings, we concluded the genera that should be recognized in the subfamily Delphininae, are only four, which includes *Delphinus* (including *Stenella* within this genus), *Lagenodelphis*, *Sousa*, and *Tursiops*.

The Subcellular Localization of Small Protein MntS in *Escherichia coli*

Becca Amick (Dr. Lauren Waters)
Chemistry
Poster Presentation (P9)

Manganese is an essential nutrient for both prokaryotic and eukaryotic organisms. As such, it plays a crucial role in bacterial infection of a eukaryotic host and, therefore, has implications for

human health. In this study, manganese homeostasis in *Escherichia coli* was examined. MntS, a small protein, has been shown to be involved in manganese transport, but its specific function remains unknown. Because of homology between MntS and other proteins which are transported across the cell membrane, we believe determining the subcellular localization of MntS is important for understanding its function in manganese transport. Paired subcellular localization assays were used to determine whether MntS is located in the cytoplasm or periplasm of cells. Fusion proteins were created of MntS with either green fluorescent protein (GFP), which is only active in the cytoplasm, or alkaline phosphatase (PhoA), which is only active in the periplasm. By quantitating the level of GFP and PhoA activity in these fusion proteins, it was determined that MntS is located intracellularly, rather than extracellularly. This information will guide further research into the function of MntS in the cytoplasm and will help elucidate the mechanism of its involvement in manganese transport.

Dynamic NMR Study of Carbon-Nitrogen Bond Rotation Barrier and Substituent Effects

Cody Beck* (Dr. Linfeng Xie)

Chemistry

Poster Presentation (P10)

Nuclear Magnetic Resonance (NMR) spectroscopy has many powerful applications in STEM fields. One such application is using dynamic NMR spectroscopy to study chemical processes such as isomerization and bond rotation. Understanding bond rotation phenomenon at the microscopic level is of great interest in the development of molecular machinery. The purpose of this research is to study the carbon-nitrogen (C-N) bond properties in N,N-dimethylbenzamide. In particular, the rotation barrier of the C-N bond will be assessed by studying the temperature-dependence of the rate of rotation. In addition, the effects of different substituents on the rate of C-N rotation can be studied by placing various functional groups in the molecule. This will be accomplished by taking NMR spectra at various temperatures, and analyzing the data to find the coalescence temperature. Once the coalescence temperature is known, the rotation barrier (or activation energy) of the bond can be calculated using mathematical formulas. Our findings can potentially

be used to develop an NMR experiment for undergraduate spectroscopy curriculum.

Formation of Struvite in Simulated Wastewater Using Naturally Abundant Low-Soluble Magnesium Precursors

Zachary Chambers* (Dr. Jennifer Shuttlefield Christus and Dr. George Olsen)

Chemistry

Poster Presentation (P11)

Population growth and societal development have resulted in the anthropogenic pollution of water supplies. Due to these factors, it is of the utmost importance to ensure that wastewater be treated and recycled in order to be sustainably utilized. One potential mechanism for capturing pollutants in wastewater is through the formation of struvite (magnesium ammonium phosphate hexahydrate, $\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O}$), which is a crystalline material that naturally forms in decomposing organic material and has been observed in treated wastewater sludge. The accumulation of struvite on pipe walls and equipment surfaces has plagued the wastewater treatment industry, but by utilizing the formation of struvite prior to the treatment process could provide a potential pathway for the sustainable recovery of the major nutrients nitrogen (N) and phosphorus (P). Struvite is one of the most promising chemical platforms for recovering nutrients, which previously was done using expensive water-soluble magnesium salts. Here we show that low solubility, naturally abundant magnesium inorganic materials (MgO and MgCO_3) can be used to form struvite on a reasonable time scale in simulated wastewater. Additionally, previously established colorimetric methods were utilized to analyze the remaining ions in solution (i.e., phosphate and ammonium) using UV-Vis Spectroscopy in order to obtain a better understanding of the kinetics of the reaction.

The Effect of Acid Strength on Catalytic Conversion of CO₂ to Value-Added Chemicals

Kara Gillette (Dr. Sheri Lense)

Chemistry

Poster Presentation (P12)

Carbon dioxide (CO₂) is a greenhouse gas (GHG) that is currently being produced and released into the atmosphere in abundance. Being able to convert CO₂

into a chemical feedstock like carbon monoxide (CO) for recycling into fuels, plastics, and other chemicals of value would provide an economic incentive for reducing GHG emissions. However, the reaction is too inefficient to be economically feasible without the assistance of a catalyst to make the reaction faster and less energetically demanding. Our group is studying different ways to optimize a catalyst for converting CO₂ into CO; specifically, I have been investigating how varying the strength of an acidic group in the catalyst affects catalytic performance. We have successfully developed and implemented a synthesis procedure for creating three catalysts predicted to have acidic groups of different strengths. Each catalyst has been characterized and a preliminary assessment of catalytic performance has been completed. During characterization, we found that our catalysts can take on two different orientations that have not been reported previously. We suspect that both orientations contribute to catalytic performance and are working to determine the extent of their contribution. Additionally, we are working to determine the strengths of the acidic groups in the catalysts.

Synthesis of (*R*)- and (*S*)-2-methylproline

Jason Lopez (Dr. Brant Kedrowski)

Chemistry

Oral Presentations Session IV

Reeve Union Room 220 (9:30 – 10:15 a.m.)

2-methylproline is a modified version of the important amino acid, Proline. It may have medical applications within peptide therapeutics, but methods for synthesis are privately owned under patent. This research describes a method for the synthesis of (*R*)- and (*S*)-2-methylproline. We propose this synthesis will utilize less toxic reagents than current methods and be functional as a Proline alternative in peptide amino acid sequences. Alkylation of dimethyl methylmalonate with 3-Bromopropionaldehyde ethylene acetal, followed by selective monohydrolysis of the diester with Pig Liver Esterase, should give an isomerically pure acid. The isomers can be easily interconverted by standard protecting group manipulations as long as the solution is isomerically pure. A Curtius rearrangement/hydrolysis followed by a reductive amination/hydrolysis should give the products (*R*)- and (*S*)-2-methylproline.

Histone Acetyltransferases and Mitosis

Rachel Luedtke* (Dr. James Paulson)

Chemistry

Poster Presentation (P13)

DNA is condensed into chromosomes by wrapping around proteins called histones. In order for DNA to be transcribed, these histones undergo a chemical modification called acetylation in which an acetyl group is added to lysine side chains by enzymes called Histone Acetyltransferases (HATs).

Acetylation loosens the DNA from histones, allowing it to be transcribed.

During mitosis (cell division) the chromosomes are distributed to the two “daughter” cells. It has been found that the histones are much less able to be acetylated during mitosis, compared to interphase, which may be related to transcription being shut off during mitosis.

The reason why histones are less acetylated during mitosis is unknown, but it is hypothesized that it is due either to (1) down-regulation of the HAT enzymes, or (2) inaccessibility of the sites of acetylation. HAT activity in interphase and metaphase HeLa cells (a human cancer cell line) is being tested using a Colorimetric Histone Acetyltransferase Activity Assay Kit. The accessibility of the sites of acetylation can be tested by treating isolated chromosomes with extracts of interphase cells as a source of HATs and acetyl CoA as a source of acetyl groups.

Determining MntS Native Structure Using Blue Native Gel Electrophoresis, 2D Gel Electrophoresis, and Western Blotting

Kimberly Preissner (Dr. Lauren Waters)

Chemistry

Poster Presentation (P14)

MntS is a small protein made up of 42 amino acids which is involved in manganese homeostasis in *E. coli*. It is also known that MntS oligomerizes with itself in the presence of manganese. Previous work gave rise to the hypothesis that MntS oligomerizes into a tetramer or octamer. To determine the native structure of MntS, Blue Native gel electrophoresis followed by 2D SDS gel electrophoresis and Western blotting were used.

First, the methods for Blue Native gel electrophoresis, 2D gel electrophoresis, and Western blotting to detect MntS structure had to be developed. This required pouring BN gradient gels, which separate complexes without denaturing them, and making buffers for BN electrophoresis. Then 2D SDS gels were poured and the BN gel slice containing MntS was inserted into a large well in the 2D SDS gels. Finally a Western blot with Coomassie-stained gels was done.

We successfully developed these new protocols in our lab. These methods can be used in future studies of native protein-protein interactions. In addition, the data achieved gave good preliminary results that did moderately line up with the hypothesis that MntS native structure is either in a tetramer or octamer.

The Influence of the Number and Positioning of Intramolecular Acids on Carbon Dioxide Reduction Catalysts

Grace Robertson (Dr. Sheri Lense)
Chemistry
Poster Presentation (P15)

As carbon dioxide emissions increase, so does the need for a solution to the increasing atmospheric carbon dioxide concentration. Through the electrochemical reduction of carbon dioxide, carbon monoxide is produced. The carbon monoxide can then be used as a precursor to synthesize other fuels. The reduction from carbon dioxide to carbon monoxide is unfavorable both by kinetics and thermodynamics; therefore a catalyst is needed for the reaction to proceed. The most energetically favorable process for the reduction of carbon dioxide to carbon monoxide requires the transfer of two protons to carbon dioxide. From previously reported research it is known that the speed of a catalyst improves when it contains an intramolecular proton donor known as an intramolecular acid. In this research, we report how the number and position of intramolecular acids affect the efficiency and speed of carbon dioxide reduction catalysts. Specifically, we compare the performance of a catalyst containing two intramolecular acids to that of a catalyst containing only one intramolecular acid, and investigate the effect of moving the intramolecular acid further from the site at which the carbon dioxide binds.

Assessing the Role of Alx, a Membrane Protein, in *Escherichia coli*

Luke Seuffer (Dr. Lauren Waters)
Chemistry
Poster Presentation (P16)

Membrane proteins help facilitate the transport of many vital nutrients in and out of the cell. The maintenance of specific chemical concentration differences across the membrane is essential both for cell energy storage and survival. Manganese (Mn) is an important nutrient that acts as a metallic cofactor in enzymes and aids in the degradation of toxic reactive oxygen species. Intracellular pH conditions must be carefully controlled to maintain proper enzyme function and avoid entry into pathological states. Both Mn^{2+} and H^+ can be transported independently or together with other nutrients using their concentration gradients. The *alx* gene in *Escherichia coli* has been implicated in Mn and pH homeostasis. While the gene regulation and function of Alx has been studied for nearly 30 years, the cellular role of the protein has yet to be determined. Previous studies have independently established Mn and pH regulatory mechanisms of gene expression. We seek to assess the relative impact of Mn and pH together on Alx gene expression using *lacZ* fusions to learn when the protein is produced. To determine the potential transport role of Alx, growth experiments have been employed over a range of pH values and Mn concentrations.

Social Interaction and Media Behavior: Political Engagement among Gen Z

Megan Elger (Dr. Kristi Wilkum-Fond du Lac Campus)
Communication Studies
Poster Presentation (P17)

This is a project to understand students' engagement in civil voting rights by investigating individual traits, media behavior, and perceived barriers to engaging in conversations about politics. Active participation in the political process is essential to a healthy democracy. The most politically active citizens are not swayed by media campaigns or commercials for political candidates (Lazarsfeld, Berelson, Gaudet, 1968). Our research builds on what is already known about media and voting behavior in young people (Ashley, Maskl, & Craft, 2017; Maskl, Ashley & Craft, 2017; Kahne, Lee, Fazelle, 2012) by integrating systems thinking with what is known about the role of

interpersonal interaction as a persuasive force in political activity (Lazarsfeld, Berelson, Gaudet, 1968). The previous research does not explore the role of mediating factors such as communication apprehension, computer-mediated communication apprehension, and new media skepticism. This is a survey-based project using mixed methods. The purpose of this study is to address three research questions that focus on media behavior, predicting engagement in political conversation and activism, the role of communication apprehension, and model testing. Both statistical modeling and content analysis are being used to address these research questions.

Levels of Motivation in College Students Pursuing a Degree in Foreign Language

Jessica Dybul (Dr. Katherine Short-Meyerson)

Education

Oral Presentations Session III

Reeve Union Room 210 (8:30 – 9:15 a.m.)

Motivation is important to learning and achievement. There are two types of motivation involved in learning (Deci & Ryan, 1985). Extrinsic motivation refers to behavior driven by external rewards or punishments. Intrinsic motivation refers to behavior driven by internal, positive feelings associated with an activity. Additionally, in second language learning, integrative motivation refers to one being driven to study a second language in order to identify with the target language community (Gardner & Masgoret, 2003). Research on intrinsic and extrinsic motivation's connection to second language learning is a relatively new area. This study aims to assess these three types of motivation in college students who pursue any type of degree in foreign language. An online Qualtrics survey will be administered to the undergraduate students in the foreign language department at UW Oshkosh. The survey will tap into their motivations for pursuing foreign language at the college level. It is anticipated that about 100 students will respond. From the survey, we will be able to learn which type of motivation is most common among this group. It is expected that their intrinsic motivation will be higher than that of students in previous studies who took foreign language classes for general education requirements.

Comparative Analysis of Math Teacher Training Programs

Alex Siebers* (Dr. Stephanie Bernander)

Education

Oral Presentations Session III

Reeve Union Room 210 (8:30 – 9:15 a.m.)

The purpose of this research is to examine how the mathematical content knowledge that pre-service math teachers acquire in their university teacher training programs affects their ability to teach the Common Core State Standards for Mathematics, foster student conceptual understanding, and provide interventions to students performing below grade level. Our participants consisted of high school and middle school mathematics teachers in their first year of teaching. Data collection entailed administering surveys to these teachers in which they reflect on their own teaching abilities as well as the role their university programs had in shaping those abilities. Additionally, we administered a standardized test called the Learning Mathematics for Teaching (Hill, Schilling, & Ball, 2004) measure developed by the University of Michigan in order to evaluate teachers on their mathematical content knowledge and mathematical pedagogical content knowledge in topics such as number concepts and operations and patterns, functions, and algebra. Through this research, we hope to provide universities with information to critically reflect on their math education programs so as to ensure that these programs are adequately preparing new teachers to meet the needs of their students.

Electric Basic Utility Vehicle

Cesar Campos-Martinez, Chin Yan Lee, Griffin

Tedlie and Collin Durkin (Dr. Warren Vas)

Engineering Technology–Fox Valley Campus

Poster Presentation (P18)

Engineering students at UW Oshkosh, Fox Valley campus designed an Electric Basic Utility Vehicle (BUV) to serve as a means of clean transportation for the campus grounds staff at UW-Fox Valley and to assist them with moving equipment. The design process of the vehicle was carried out by the students via conducting research and creating models in AutoCAD and Inventor. The students purchased the components and parts and began fabrication. This involved cutting, grinding, welding, etc. of sheet metal and wood. The electrical system was wired separately. The BUV is equipped with four 1.2-kWh lead acid batteries and powered by a 10-hp electric motor capable of regenerative braking. The BUV is versatile and can be easily reconfigured to swap out

its pick-up bed for a second row of seats. It will be used to conduct class and research projects when complete. For example, 200-W solar panels will be added to study onboard charging. Key to the success of building the BUV were the creativity and meticulous planning of the students and the coordination between the faculty advisor and various sub-groups to execute tasks properly.

Coverage of Water Issues in Wisconsin's Print Media

Yanet Fernandez (Dr. Jamie Douglas)
Engineering Technology–Fox Valley Campus
Poster Presentation (P19)

Newspapers and news coverage have the ability to inform the public and shape discourse on a wide variety of topics. However, print media has faced a number of economic challenges in the last several decades due to declining circulation, the growth of online media, and decreased print media sales revenues. These factors have led to consolidation of local newspapers and shifting of ownership to larger media conglomerates. This research looks at how shifts in newspaper ownership have changed the coverage of water resource issues in Wisconsin. This research evaluates the quantity, placement, and content of water resource related stories in several newspapers in Wisconsin—*Green Bay Press Gazette*, *Oshkosh Northwestern*, *Milwaukee Journal Sentinel*, and *Wisconsin State Journal*. Several points in time have been selected to capture coverage before and after media consolidation.

Reddit as a Safe Place?: Examining Tensions between Free Speech and Identity Formation amongst Trans/Gender Non-Conforming Individuals

Nicole Adams (Dr. Maria Novotny)
English
Poster Presentation (P20)

This project, “Reddit as a Safe Place?: Examining Tensions between Free Speech and Identity Formation amongst Trans/Gender Non-Conforming Individuals’ Reliance on Anonymous Online Platforms,” seeks to understand the experiences of trans/non-gender conforming individuals as they use online platforms to explore their identities online. Sites, such as Reddit, allow trans/non-gender conforming individuals to develop their identity,

gather resources to guide the “coming out” process, and find support. However, these online spaces can be dangerous to trans/non-gender conforming users. Individuals can harass others based upon their identity. Those who engage in hate speech against the trans/non-gender conforming community, cite freedom of speech to protect their actions. Such actions expose trans/non-gender conforming individuals to combative online harassment. This study reports on instances of online harassment directed toward individuals’ identity formation. Drawing upon that data, this project creates a resource guide to identify a series of best practices and safety tips to ensure trans/non-gender conforming individuals’ safety. Ultimately, this project seeks to call critical attention to the tensions between free speech and online social networks and chat rooms as it relates to trans/non-gender conforming persons.

A Manner in Which Norms Might Be Skirted

Constance Bougie* (Laura Jean Baker)
English
Oral Presentations Session VI
Reeve Union Room 210 (9:30 – 10:15 a.m.)

I received a grant in 2018 to spend the summer of that year writing a collection of short stories exploring queer identity in a more nuanced manner than much of popular media, historically, has done. The final project that came from this effort was composed of twenty-five works of short prose, nine of which have since been published in various literary magazines and projects.

Presenting on this collection of stories, I will be discussing the writing processes I used to produce the project, some of the themes I explored through this writing, and the various manners in which I did and didn’t achieve the goals I set out for myself to complete at the outset of the project. I will also be reading from what I decided to call *Strangers: A Novel of Stories*, in addition to discussing the process by which I went about publishing pieces of it.

Testing the Effectiveness of a Male-Targeted Infertility Social Media Campaign: Providing Educational Resources and Reducing Stigma by Building an Online Community of Support
Kristen Mahan* (Dr. Maria Novotny)

English
Oral Presentations Session VI
Reeve Union Room 210 (9:30 – 10:15 a.m.)

This project investigates the effectiveness of a social media health campaign directed at men experiencing infertility. While infertility impacts 12% of those who are of reproductive age in the U.S., most infertility-related social media campaigns are marketed at women. However, it is estimated that one-third of infertility cases are the result of male reproductive issues, one-third a result of female reproductive issues, and one-third either a combination of both sexes or unexplained. Despite these statistics, infertile men continue to be underrepresented and under-supported.

This study investigates what types of resources infertile men seek, as well as examining the effectiveness of a social media campaign. To do this work, Kristen engaged in the creation and research of a social media campaign titled *Sperm Stories*. To support social media content creation, Kristen traveled with her mentor to Los Angeles for a male-focused infertility art exhibit. She drew upon that experience to create social media content for *Sperm Stories*. The second half of the project tested the effectiveness of such content by surveying infertile men who followed *Sperm Stories*. The data found that men appreciated the male-focus and felt supported. However, while participants felt less isolated, many shared a desire for more anonymous platforms.

French in Northeast Wisconsin

Jacob Kroll* (Dr. Andrzej Dzedzic)
Foreign Languages and Literatures
Oral Presentations Session V
Reeve Union Room 209 (9:30 – 10:30 a.m.)

The French have been present in Northeast Wisconsin since Jean Nicolet's arrival at Green Bay in 1634. Wisconsin, which was once part of New France, was for many years home to Métis traders and trappers. These mixed French and Indian inhabitants had a way of life that was remarkably different from that of the other English and French colonists in the New World. The first component of this project includes a historical overview of New France and "La Baye" (Green Bay), one of the most important sites in New France's "Pays-d'en-Haut" (Upper Country).

The second component of this project focuses on the French language in Northeast Wisconsin and its disappearance, with a specific focus on Fond du Lac—the city with Wisconsin's largest French population after Green Bay. In this section, evidence is provided to help explain why German speakers in Northeast Wisconsin have been able to maintain their language better than French speakers.

Long-Term Fire History from Bass Lake Northeastern Wisconsin

Brianna Beseler* (Dr. Colin Long)
Geography
Poster Presentation (P21)

While humans have caused major changes in the environment, fire history has predated us by millions of years. Fire is an important part of many forest ecosystems and by studying fire history this can allow for better understanding in how fire, vegetation and climate are linked together. Fire can drastically change the existing ecosystem so it is important to obtain records of fire history in order to gain insight into how forests respond to fire over a long period of time. Wisconsin's fire history is relatively small compared to various other parts of the world. In 1871 one of the deadliest wildfires in American history, the Peshtigo Fire, burned 1.2 million acres in Northeast Wisconsin. This project targets this catastrophic wildfire history of Wisconsin. Long records of fire can be obtained by examining charcoal accumulation in lake sediments. For this project we obtained a lake sediment core from Bass Lake in Beaver, Wisconsin, to reconstruct records of charcoal-based fire histories. It is crucial to know how old the sediments are when reconstructing. To do this we will construct an age versus depth model. An age versus depth model can be constructed using radiocarbon (C14) ages of material found in the lake sediment core.

Characterizing the Geomorphology of Coastal Montane Streams in Jamaica: Implications of Land Use Change and Increased Hurricane Frequency

Brianna Beseler* (Dr. Mark Bowen)
Geography
Poster Presentation (P22)

The island of Jamaica, located in the heart of the Caribbean region, with its lush topography of

mountains, forests, and reef-lined beaches has had a prolonged history of hurricanes and tropical storms. Over the past several decades there has been more tropical storm activity hitting the island, which has wide-ranging impacts on the landscape. Watersheds and streams are especially susceptible to the impacts of hurricanes and tropical storms due to the island's history of deforestation and land use change beginning in the late 1600's with British colonization. However, there is not much data available on the impacts of the land use change and deforestation that took place along with the high-impact storm increase on Jamaican streams. There is even less knowledge on the geomorphic response over time due to the land use change and climate change. The lack of knowledge about this specific topic however has been a key motivator in producing a project of this nature. Our goal in conducting this project was to characterize the geomorphic responses of coastal montane streams in Jamaica to deforestation impacts and increased intensity and frequency of tropical storms and hurricanes. I accomplished this by surveying stream channels in the Robins River watershed in southwest Jamaica. I analyzed survey data and compare that to historical precipitation, land use, and stream flow data to determine how these streams have adjusted to these changes over time.

The Origin and Composition of the Iron-Rich Neda Formation, Eastern Wisconsin: From Ancient Oceans to Economic Iron Ore

Michael Clark* (Dr. Eric Hiatt)
Geology
Poster Presentation (P23)

The Neda Formation is an ancient iron ore body in eastern Wisconsin that dates to a major sea-level change and mass extinction (ca. 440 million year ago). Its exact age, paleo-climatic significance, and how it relates to overlying and underlying strata, are still poorly understood. We used the mineralogical composition, sedimentology, and stratigraphy of the Neda to shed light on its origin and its economic potential. The Neda was an important asset to an early Wisconsin economy in the early- to mid-1800s, but due to the high phosphorus content it was not an economic ore body for long. There are two competing hypotheses regarding the origin; one suggests the iron minerals represent replacement of an ancient pre-existing limestone, while the other interprets the Neda as a primary marine seafloor precipitate during a sea-

level rise, which ultimately led to the carbonate rocks of the Niagara Escarpment (Niagara Falls, Door County, High Cliff State Park).

We used petrographic analysis, X-ray diffraction, and X-ray fluorescence to determine the mineral and chemical composition. The iron minerals that make up the Neda are a mixture of hematite and goethite, both iron oxides. Importantly, calcium phosphate occurs as hematite-coated clasts derived the underlying rock layers.

Temporal Patterns of Crustal Reworking Over Earth History

Zach Henderson (Dr. Tim Paulsen)
Geology
Poster Presentation (P24)

Sedimentary rock successions hold important records for understanding the evolution of Earth's continental landmasses. Zircon grains contained within sedimentary rocks are particularly robust time capsules that retain a wealth of chronologic and compositional information concerning crustal evolution. Recent analyses of large detrital zircon U-Pb age datasets suggest that increased zircon abundance in the sedimentary rock record correlates with episodes of supercontinental amalgamation, the significance of which has been attributed to increased magmatism and preservation in the rock record. Other authors have postulated that these episodes correlate with increases in crustal reworking based on Hf and O isotope analyses. However, these datasets are limited in size due to challenges surrounding the collection of age and compositional data from the same grain spot. This work presents new analyses of a compilation of previously published zircon age data with the intent of assessing the patterns and significance of crustal reworking over Earth history.

Reactivity of Carbonate Minerals as Measured by Isotopic Exchange

Daniel Makowsky* (Dr. Eric Hiatt)
Geology
Poster Presentation (P25)

Carbonate sediments are produced by marine organisms and are composed of CaCO_3 as either calcite or aragonite. Their chemistry is used to determine paleo-environmental conditions; however, CaCO_3 is susceptible to chemical alteration, and

detecting alteration is key to understanding the chemical signature of ancient carbonates. When CaCO_3 precipitates, it includes isotopes of oxygen and carbon (^{18}O , ^{16}O , and ^{13}C , ^{12}C); both are used to infer the nature of the water (temperature and productivity). During interaction with water, carbonate oxygen and carbon exchange with H_2O and CO_2 , affecting the mineral's ratio of ^{18}O to ^{16}O and ^{13}C to ^{12}C . To quantify the effect of mineralogy on isotopic exchange, we measured the change in isotope ratios under controlled conditions. By using varying temperature and particle sizes of pure biologically precipitated aragonite and calcite, we assessed the degree of exchange. We prepared samples of one species of calcifying green algae and one species of red algae. Once sample composition, size, and temperature were determined, we reacted the calcium carbonates in deionized water under controlled conditions. The carbonate samples were then analyzed using a mass spectrometer to measure their isotopic ratios. Results indicate that aragonite is very reactive, but both minerals experienced significant exchange.

Assessing Petroleum Reservoir Development in the Anadarko Basin, Oklahoma

Nicole Salchert (Dr. Eric Hiatt)
Geology
Poster Presentation (P26)

Petrographic study of ancient limestone from the Anadarko Basin of Oklahoma provided clues about porosity evolution. The Anadarko Basin contains major oil and natural gas reservoirs and spans 59,000 square miles over Oklahoma, Kansas, Texas, and Colorado. This 320 million-year-old sedimentary basin is buried to 3 kilometers. My research focused on a section that has not been studied in detail, which contains limestone with multiple generations of calcite and dolomite cement that restrict the rock's porosity and permeability.

To assess this interval's petroleum or natural gas reservoir potential we examined samples collected from a deep drill core using petrographic analysis of textures and compositions to interpret environments of deposition and secondary carbonate mineral growth. Cathodoluminescent petrography revealed crystal growth characteristics and porosity evolution. Cathodoluminescence in carbonate rocks is controlled by trace elements and allowed us to see details,

including timing, of crystal growth. Determination of the origin and evolution of porosity in ancient limestones gives insight into whether a rock has potential to allow fluid movement at crucial stages during subsidence and burial. Through petrographic analysis, we have identified two calcite cements and three dolomite cements that contributed to reducing the limestone's porosity and limit reservoir potential in this interval.

Characterizing Magma Evolution with Crystal Cargo Chemistry in Basalts of the Southernmost Cascades

Nicole Salchert* (Dr. Jennifer Wenner)
Geology
Poster Presentation (P27)

We present mineral data focused on one lithologic group in the basalts of the Poison Lake Chain (PLC). The PLC is located in the southern Cascades and contains 9 geochemically distinct lava groups. Our previous work in the Stephens Campground (*bs*) group revealed two spatially distributed sub-groups with distinct whole rock trace element compositions: units 1-3 have a narrow range of trace element compositions and units 4-5 have more varied trace element compositions. The current study focuses on the relationship of crystal cargo to magma evolution. Mineral analyses of crystal cargo reinforce the subdivisions determined by whole rock analyses. All units contain a range of crystal cargo—glomerocrysts (clumps of crystals), antecrysts and phenocrysts. Core compositions in units 4-5 are close to equilibrium with the whole rock and rims show normal zoning, consistent with fractionation. Units 1-3 have evidence of a more complex magmatic history. Glomerocryst and antecryst core compositions are out of equilibrium with the whole rock and rims are reversely zoned. Phenocrysts in units 1-3 are in equilibrium with the whole rock and rims and groundmass are normally zoned, reflecting simple crystallization. Crystal cargo compositions provide information about distinct crustal processes experienced by the *bs* group.

Exploring Seasonal Variations in Fluxes to Gardner Swamp, Door County, Wisconsin

Elijah Schukow (Dr. Maureen Muldoon)
Geology
Poster Presentation (P28)

Wetlands are groundwater dependent ecosystems that host many unique flora and fauna. The health of wetlands is dependent on fluxes of water entering and leaving the system. We are exploring the seasonal variations in water fluxes to Gardner Swamp in Door County, Wisconsin. This wetland has two inlet streams and one outlet stream. Streamflow into and out of the wetland has been measured seven times over the past few years. These data show that there are times when stream inflow is greater than stream outflow while at other times outflow is greater than inflow. Stream discharge is affected by precipitation, runoff, groundwater inflows and evapotranspiration. We believe the mismatched inflows and outflows are explained by seasonal variations in evapotranspiration and surface runoff from precipitation and snowmelt.

Evapotranspiration is very hard to quantify therefore we focused on quantifying water fluxes during fall and winter when evapotranspiration is negligible. We measured stage and discharge to develop a rating curve which allowed us to calculate daily stream discharge and evaluate relationships between precipitation, runoff, and stream discharge. In order to quantify groundwater baseflow to the stream, we measured flow at two springs during winter when groundwater discharge points are easily identified.

Aristocratic Expectations of Motherhood in 12th and 13th Century England

Anna Dinkel (Dr. Kimberly Rivers)

History

Oral Presentations Session V

Reeve Union Room 209 (9:30 – 10:30 a.m.)

With the advent of many women and gender studies programs in the 1970s, looking at conceptualizations of the social construction of gender are still being applied and analyzed in history. Specifically, this research will be looking at 12th and 13th century aristocratic English women and their experience with motherhood. Motherhood—in pre- and postpartum phases—has been rarely looked at in relation to power and political space; often in medieval history, the coronation is stressed as the culmination of aristocratic female agency. What I would like to prove in this research is that the physical act of birth and succeeding motherhood propelled aristocratic women into a different status, where they were able to attain agency under the auspices of kinship. Aristocratic mothers in 12th- and 13th-century England gained more agency in postpartum life,

precisely because kinship and connection were central to the preservation of medieval aristocratic family. Under the marriage contract, women started in a weaker familial position but often secured a more advantaged position through the ritual of childbirth. Under the safeguard of motherhood, female aristocracy played a featured political and social advisory role that has initially been overlooked because of its tendency to remain within the household economy.

Doomed in Dependency: Health Governance in Sub-Saharan Africa and the Rise of Non-Communicable Disease

Stephanie Liechty (Dr. Tracy Slagter)

International Studies

Oral Presentations Session III

Reeve Union Room 210 (8:30 – 9:15 a.m.)

This paper draws attention to the interaction between global health governance, sub-Saharan African politics, and the rising threat of non-communicable disease (NCD). Using both qualitative and quantitative analysis, I attempt to uncover how the increase in prevalence of NCDs in sub-Saharan Africa is affecting national health systems and what that means for future action regarding health governance. Overall, I assert that the lack of attention and resources from global health governance going toward NCD-related treatment in Africa dooms states to a cycle of financial dependency for the continuation of national health systems. Additionally, this financial dependency causes African states to skew their priorities away from NCDs and look instead to their present problems, rather than building their capacity to address future problems.

The Rise of Influencer Marketing

Whitney Wender (Dr. Sara Steffes Hansen)

Journalism

Oral Presentations Session VI

Reeve Union Room 210 (9:30 – 10:15 a.m.)

With the rise of technological advances and social media, a new form of marketing called influencer marketing has taken hold of the industry. Brands find opinion leaders or thought leaders—known as influencers—on social media to use or mention branded products in order to persuade their online followers to be aware of the brand or consider purchase. This study, for my Honors thesis, aims to

discover the connections between influencer marketing and JUUL e-cigarettes through content analysis on different social media platforms. This work will examine various factors of JUUL's influencer marketing strategy evident in social media posts as aligned with opinion leadership studies and self-presentation theory. Findings will explore content strategies for impression management and recent popularity of JUUL products with young adults.

Development of 1-Repetition-Maximum Prediction Equations for Squat in Division III Female Athletes

Eleftheria Mavraganis, Nickolas Freitag, Jason Johnson, Lydia Lowery and Craig Biwer (Dr. Brian Wallace)
Kinesiology
Poster Presentation (P33)

The purpose of this study was to establish 1-Repetition-Maximum (1RM) prediction equations for maximum squat strength in Division III female athletes. Participants (n=40) were tested for their 1RM squat, and measured on 13 anthropometric variables. Stepwise linear regressions yielded two prediction equations. The first regression considered all variables, whereas the second included the 6 most easily measurable ones. Equation 1 (Eq1): $1RM = (80.095) + (1.44(\text{grip strength})) - (0.719(\text{leg length})) + (1.081(\text{calf skinfold})) - (0.612(\text{body fat percentage}))$. Equation 2: $1RM = (84.151) + (1.391(\text{grip strength})) - (0.675(\text{leg length}))$. Equation 1 had an R^2 of 56.4%, meaning that a little over half of the variance in squat strength is due to grip strength, leg length, calf skinfold, and body fat percentage. Equation 2 (Eq2) had an R^2 of 42.2%. The correlation between squat strength (mean 73.30 ± 10.30 kg) and Eq1 (73.21 ± 8.02 kg) was $r = 0.78$; and $r = 0.67$ between squat max and Eq2 (73.34 ± 6.92 kg). A one-way ANOVA showed that squat strength and both prediction equations yielded similar mean values ($p = 0.99$). Eq1 was $100.60 \pm 8.80\%$ accurate, while Eq2 was $100.49 \pm 5.77\%$ accurate. Eq1 better predicts 1RM squat strength, but Eq2 provides acceptable results utilizing less time and equipment.

Wisconsin High School Basketball Coach Perceptions of Players' Ankle Support Practices

Miranda Rudnick (Dr. Brian Wallace)
Kinesiology

Poster Presentation (P34)

Ankle support practices of high school basketball players in Wisconsin is unknown. We surveyed coaches throughout the state via an online questionnaire containing seven questions about ankle support usage and effectiveness. Answer choices followed a Likert or ordinal scale. Fifty-nine boys' and 52 girls' coaches responded. Frequencies and proportions were calculated, and Chi-square tests compared boys' and girls' coaches' responses. Girls' and boys' coaches gave significantly ($p = 0.031$) different responses with 75% and 54% respectively neither encouraging nor discouraging ankle taping; 39% of boys' and 26% of girls' coaches encourage or highly encourage taping. We observed similar results for ankle bracing ($p = 0.045$). Coaches generally believed that ankle supports neither benefit nor hinder jumping and landing or cutting (proportion 59% - 73%). A majority formed their opinion on ankle supports from personal experience (approximately 50%), some from their athletic director/athletic trainer or coaching clinics (approximately 43%), and only one from scientific research. The majority of coaches reported under 20% of their players wore ankle supports, however a significantly higher number of girls' teams have greater than 20% of ankle bracing usage ($p = 0.008$). Girls' and boys' coaches responded similarly in ankle support practices, however coaches need education on obtaining player safety information from evidence-based sources.

Bridging the Gap: How *Craigslitlieder* Revitalizes Classical Repertoire to Modern Audiences

Matthew Beecher (Dr. Nathan Krueger)
Music
Performance Presentation
Reeve Ballroom 227C (8:30 – 9:15 a.m.)

Gabriel Kahane, a quintessential example of an artist, demonstrates two distinctly different worlds of music—classical and contemporary. He is both a singer/songwriter of pop music, as well as composer of song cycles, musicals, and concerti. Displaying an aptitude for creativity and range, Kahane illustrates his ability and credibility in both styles. He fuses different styles and genres together in both his classical writing and his contemporary. Kahane even frames existing classical repertoire with pop singing devices and vice versa. Audiences at either spectrum experience a greater appreciation for the other genre.

Through exploring one of Kahane's song cycles, *Craigslustlieder*, I intend to deconstruct and display the nuances of both the classical and contemporary of music. It is my hope that works such as *Craigslustlieder* can further bridge the gap between both genres and their respective audiences, creating wider appeal for the art form for generations to come.

Beethoven's Piano Quartet in E flat major, Op. 16, Andante Cantabile

Jon Glowcheski, Brooke Strickert, Hope Schaefer Kemps and Stephen DCamp (Dr. Eli Kalman)

Music

Performance Presentation

Reeve Ballroom 227C (8:30 – 9:15 a.m.)

Guided by Dr. Eli Kalman, we will be performing the second movement of Beethoven's Piano Quartet in E flat major.

Beethoven's Piano Quartet was published in 1801 in Vienna simultaneously with the original version for quintet with piano, oboe, clarinet, horn, and bassoon. Both versions are dedicated to Prince Joseph Schwarzenberg.

The second movement is performed at an Andante tempo. One of our favorite parts about this movement is that each instrument gets its own soli section.

You will also notice many appearances of the main theme that are passed around the ensemble.

Jon Glowcheski (piano), Brooke Strickert (violin), Hope Schaefer Kemps (viola), and Stephen DCamp (cello) have been working hard on this movement all semester and hope you enjoy it.

Five Hebrew Love Songs

Molly Hennig and Isabel Sorebo with Herb Berendsen, pianist (Dr. Anna Hersey and Dr. Yuliya Smead)

Music

Performance Presentation

Reeve Ballroom 227C (8:30 – 9:15 a.m.)

Before Five Hebrew Love Songs became a staple of Eric Whitacre's choral works, it was written for soprano voice, violin, and piano. The set was the result of the creative collaboration between Whitacre and his wife (at the time girlfriend) Hila Plitmann. Hila, who was born and raised in Jerusalem, wrote a set of poems in Hebrew—her native tongue—and

Whitacre set them to music as the two vacationed in a Swiss skiing village a week before premiering the set in Speyer, Germany. Each song speaks volumes of love and affection under its simplicity and, according to Whitacre, "captures a moment that Hila and I shared together."

Five Hebrew Love Songs remains "profoundly personal" to Whitacre—they are, according to him, "born entirely out of my new love for this soprano, poet, and now my beautiful wife, Hila Plitmann."

It gives me great joy to be able to perform this set, as I always feel a strong emotional connection to it. It may be due to my tiny bit of Jewish ancestry, or it may be the incredible care, love, and catharsis that Whitacre and Plitmann put into its composition. Either way, it will remain one of my favorites.

Creating an Interactive Soundscape for Videogames

Will Poppen (Dr. John Mayrose)

Music

Oral Presentations Session V

Reeve Union Room 209 (9:30 – 10:30 a.m.)

One of the most important, but often overlooked, aspects in the creation of an immersive videogame is a dynamic and realistic soundscape that correlates with the events in the game. In this talk, I will discuss my experience creating the entire audio for a sample game. I will demonstrate the creation of various sound effects from recording the original sounds, manipulating them, and implementing them to correlate with appropriate actions in the videogame. Achieving this task also includes synthesizing, leveraging of sound triggering systems, and composing non-linear music. I will also emphasize the challenges in creating sounds for interactive media where, unlike fixed media, the sounds must be dynamic with the input of a player.

Family Nurse Practitioner Students' Knowledge, Attitudes, and Self-Efficacy in the Care of LGBT Patients in the Primary Care Setting

Jacqueline Karlin* (Dr. Paula McNiel)

Nursing

Poster Presentation (P35)

Primary healthcare providers do not receive adequate didactic education in preparation for the care of the LGBTQ patient. While healthcare and governmental regulators have called for improved care for this minority population to decrease disparities, schools of nursing and medicine have been slow to adapt. Recent publications indicate not only a continued lack of knowledge, but a decreased sense of confidence when caring for this population. Applying Bandura's Theory of Self-Efficacy, the project objective was to demonstrate a continued lack of knowledge and self-efficacy of family nurse practitioner (FNP) students and evaluate if curriculum enhancement effectively improved these aspects. Through qualitative and quantitative survey of current FNP students a gap of knowledge and self-efficacy was identified. An evidence-based web-platform seminar followed by a simulation focused on communication techniques were then carried out and followed by re-evaluation of knowledge and self-efficacy. As a pilot initiative to enhance the curriculum of the FNP program, the statistical analysis was inconclusive. The non-significant findings did demonstrate improvement of many areas of knowledge, attitudes, and self-efficacy of the participants. Limitations identified include a small sample size, inexperience of the sample, and a mixture of part-time and full-time students. Educational and experiential preparation to care for LGBT patients is necessary for family nurse practitioner students to provide high-quality healthcare in a primary care setting. Continued research into the most effective methods to provide this education and experience is yet to be identified.

Real Life Challenges Encountered by International Students Applying To and Entering a Family Nurse Practitioner Program

Kevin Mohawk[†], Amy Germain and Jordyn DeBaal
(Dr. Bonnie Nickasch)
Nursing
Poster Presentation (P36)

In an age of ever-increasing online presence and advertising, an influx of interest and applications from international students is on the rise. While interest from the international community has piqued, many universities are not equipped to handle the challenges related to accepting international students, yet alone helping them be successful. International student admission can be difficult, but certainly not impossible. Accepting international students requires

attention to detail and clear communication from multiple departments to ensure all state, federal, and international regulations are met. University faculty/staff must understand the unique challenges international students face, such as overcoming possible language barriers, understanding a foreign healthcare system, finding appropriate housing, and dealing with possible Visa issues with little support. How can university faculty and staff do so if they do not understand the lived experiences of an international student? The intention of this study is to better understand current obstacles international students face in being admitted to a graduate nursing program and successfully completing their graduate studies. In addition, the study explores the issues that may arise when transitioning to the workplace both in the United States and internationally. A mixed-method approach will be utilized to gain both qualitative and quantitative data.

Titania Nanofibers as Catalyst Support Structures

Daniel Isaacs (Dr. Nenad Stojilovic)
Physics and Astronomy
Poster Presentation (P29)

Electrospun titania (TiO₂) nanofibers doped with palladium nanoparticles show great promise for use as catalyst support structures for the reduction of NO and CO gases, which contribute to the greenhouse effect, acid rain, and smog. In this project we investigate the effect of calcination temperature on the structural properties of the composite nanofibers using X-ray diffraction system. In particular we monitor how different doping levels affect the anatase-to-rutile titania phase transition. Surface morphology of the fibers is probed using electron microscopy.

Experimental Particle Physics at the PANDA Detector

Heather Pace (Dr. Mark Lattery)
Physics and Astronomy
Poster Presentation (P30)

The PANDA (anti-Proton ANnihilation at Darmstadt) experimental particle physics detector is currently being built in Germany to study fundamental questions in hadron and nuclear physics through collisions of antiprotons with nucleons and nuclei. Studies of gluonic excitations, strange and charm

quarks, and nucleon structure will be performed with unprecedented accuracy. The ultimate goal of this research is to test, with high-precision, the Standard Model of the strong-nuclear interaction. The PANDA detector is a state-of-the-art internal target detector at the HESR at FAIR allowing the detection and identification of neutral and charged particles generated in a wide angular and energy range. This poster will summarize the PANDA detector and the research questions it explores.

Properties of the Large Magellanic Cloud Globular Clusters Using RR Lyrae Stars

Nicholas Sevenz (Dr. Barton Pritzl)
Physics and Astronomy (P31)

To understand the formation of galaxies, we need to study their ancient systems. Globular clusters are among the first objects to form with a galaxy. We aim to study the Large Magellanic Cloud, a small galaxy neighboring the Milky Way Galaxy, by examining its globular clusters. We present an analysis of the RR Lyrae stars in the Large Magellanic Cloud globular clusters. RR Lyrae stars are pulsating stars whose properties may be used to determine the distance and composition of the system in which they belong. We use data from the Optical Gravitational Lensing Experiment (OGLE IV) survey to detect RR Lyrae stars within a number of globular clusters in the Large Magellanic Cloud. We give the average properties of the globular clusters and compare them to those belonging to the Milky Way Galaxy.

Stellar Populations in the Galaxy NGC 6822

Timothy Van Rooy (Dr. Barton Pritzl)
Physics and Astronomy
Poster Presentation (P32)

Galaxies are complex systems. Stars form over long periods of time. When we look at the stars within a galaxy we not only see stars of different ages, we also see stars with different chemical compositions. To better understand how galaxies form, we need to study a wide range of galaxies in different environments. NGC 6822 is one of the nearest dwarf irregular galaxies to the Milky Way Galaxy. We present our analysis of the stellar populations within multiple fields of NGC 6822, which will help us to better understand its formation.

The Availability of Dental Care for Wisconsin's Impoverished: Effects of the Urban-Rural Divide

Katelyn Wulff (Dr. Michael Jasinski)
Political Science
Poster Presentation (P37)

Access to affordable dental care is a major challenge to many Americans, particularly those in the lower income brackets. Private and public efforts to overcome that challenge face many obstacles, including the urban-rural divide. I investigate the impact of that divide by conducting a survey at community dental clinics in Milwaukee (urban), Appleton (small city), and Wausau (small town-rural) to ascertain the differences in the demographics of these regions and challenges they face. The results of the survey suggest there are major differences in terms of income, ethnicity, mode of transportation, and insurance coverage among the populations these clinics serve.

Perceived Researcher Youthfulness Moderates the Effect of Infant-Like Characteristics on Empathic Concern toward a Person in Need

Annie Docter, Cameron Blankenship, Brenna Prieto, Alex May, Colin Daniels and Nathan Klug (Dr. David Lishner)
Psychology
Poster Presentation (P38)

Consistent with an ethological account of empathic concern as a generalized form of mammalian parental care, early research conducted by Lishner et al. (2008) suggested that empathic concern is experienced to a greater extent for a person with infant-like facial features compared to a person with more adult-like features. However, subsequent research reported by Bullock et al. (2019) failed to replicate this finding. In the present series of studies, six student researchers conducted three direct replications of Lishner et al.'s original experiment and assessed whether researcher characteristics could account for the inconsistency in findings. In each experiment, undergraduate participants (N = 96 in each experiment) read a news article about an ostensible student whose parents died in an accident. Participants then rated their feelings of empathic concern for the student and their perceptions of the researcher. Using randomized blocks, participants were assigned to read an article in which

the student in need was depicted as having either infant-like or adult-like facial features. Results revealed that the predicted effect of infant-like facial characteristics on empathic concern only occurred when researchers were perceived as being relatively high in youthfulness as opposed to relatively low in youthfulness.

External Mindfulness and Nursing Simulation

Annie Docter*, Madison Malcore and Rebecca Timmins (Dr. Phan Hong, Psychology; Dr. Rachelle Lancaster, Dr. Jennifer Basler and Dr. Catherine Schmitt, Nursing)
Psychology
Poster Presentation (P39)

Doctors, nurses, and other practitioners are surrounded by a multitude of hazards and distractors that may take them away from the present moment, thus decreasing the efficiency and quality of the task at hand. Past research has implemented mindfulness-based stress reduction sessions and found an increase in nurses' well-being and a subsequent decrease in workplace errors (Daigle, Talbot, & French, 2018). The current study indirectly aims to decrease workplace errors and improve patient care by increasing nurses' external awareness while also staying focused on the present moment (i.e., they can quickly shift full attention where it is most crucial). Participants will be nursing students from a Midwest university that will undergo a nursing simulation in their program in which they must recognize as many hazards as they can in a brief period. Participants will be randomized into two groups: an experimental group that will undergo a 10-minute external mindfulness-based exercise prior to the nursing simulation and a control group that will just go right into the simulation. We hypothesize that those who undergo the mindfulness exercise will recognize more hazards in the brief time period than those in the control group. Data collection and analysis are ongoing.

Women's Responses to Perceived Men's Injustice Standards in the Context of Gender Wage Inequality

Haley Bowers*, Meghan Brzinski*, McKayla Bullock*, Destany Calma-Birling*, Deanna Luttenberger*, Tatiana Swisher* and Brittany Wierzba* (Dr. Anca Miron)

Psychology
Poster Presentation (P40)

Prior research has shown that men require more evidence than women to conclude that wage inequality is unfair to women. The primary goal of the current study is to determine whether women's responses to gender wage inequality are influenced by their perceptions of men's injustice standards. In the context of gender wage inequality, we defined *men's injustice standards* as the amount of evidence that men require to determine that the gender wage gap is unfair to women. Women were informed that men either set a low standard for concluding that the gender wage gap is unfair to women (*low standards* condition), or a high standard (*high standards* condition), or were given no information (*control* condition). We predicted that the amount of evidence women need to conclude that the gender wage gap is unfair to women would be lower in the low men standards condition than in the control and in the high standards condition, respectively. The results will increase our understanding of the conditions under which perceptions of men's solidarity with women would mobilize women's activism in response to gender inequality.

An Examination of Implicit and Explicit Attitudes toward Consensual Nonmonogamy

Destany Calma-Birling*, Tori Acton, Alex May, Samara Markle, Cassidy Urbanek and Ashley Thompson (Dr. Aaron Karst)
Psychology
Poster Presentation (P41)

Research investigating implicit attitudes toward consensual nonmonogamy (CNM; romantic relationships between two or more people that are sexual and/or emotional in nature) has revealed that CNM is associated with less favorable attitudes as compared to monogamy. Although this difference in attitudes has been observed, questions still remain regarding whether attitudes toward CNM and monogamy individually are positive, neutral, or negatively valenced. To address this issue, 355 young adults completed two different Single Target Implicit Association Tests (SC-IAT) to individually assess implicit associations with CNM and monogamy. Additionally, each participant answered questions pertaining to their CNM experience, interest in CNM, and their willingness to allow their partner to

participate in CNM. Results revealed a positive implicit association with monogamy in addition to a neutral implicit association with CNM. Further, stronger negative associations with CNM were found for participants who had no experience with CNM. Additionally, the valence of one's implicit associations with CNM predicted their willingness to allow their partner to participate in CNM. The results of this study support the notion that a difference exists in the attitudes associated with CNM and monogamy and details that this difference is driven by positive associations with monogamy and neutral associations with CNM.

Examining Solidarity among College Women in Response to Gender Inequality

Monica Fieck and Rachel Mazurek (Dr. Anca Miron)
Psychology
Poster Presentation (P42)

Prior work has documented different forms of women's solidarity and different causes of solidarity behaviors among women. However, there is a need for updated work on women's solidarity behaviors because most studies use data from the 1970s to the 1990s. As such, recent measures of actual solidarity behaviors among women are missing from the literature. The current study examines women's solidarity behaviors and the conditions under which women show solidarity with other women affected by gender inequality. No work has investigated the solidarity behaviors among college women, which is the focus of this project. The study uses a mixed-method design (semi-structured interviews and surveys). Phenomenological Data Analysis was used to extract and interpret themes from the interviews. Based on data from 20 interviews (18 undergraduate students and 2 graduate students), we proposed a theoretical model describing the antecedents and mechanisms of solidarity behaviors among college women. This model has widespread implications for designing strategies for mobilizing and sustaining activism on behalf of other women among college women.

With Concreteness Details Fade: Dissociative Effect of Labeling of Concrete and Abstract Stimuli on Memory

Amy Hodel^{♦*} (Dr. Justyna Olszewska)
Psychology
Oral Presentations Session II

Reeve Union Room 209 (8:30 – 9:15 a.m.)

The current study tested memory performance for perceptually similar images using a modified version of the classical DRM procedure. In two experiments we examined the effect of perceptually similar pictorial stimulus input for two types of images: concrete and abstract on false memories formation in an immediate and delayed recognition. In Experiment 1, by utilizing a distractor task, we revealed a higher correct recognition rate for concrete images than for abstract images in STM whereas in Experiment 2, participants were given more time between encoding and retrieval which displayed that correct responses for concrete material dropped and were comparable to the rate of abstract pictures. The rate of false memories in STM did not differ for both types of images but in Experiment 2 these rates were lower. The rate of false memories in LTM displayed a similar pattern in both experiments with a higher rate for concrete than for abstract images. Overall our results indicated that labelling images may have occurred spontaneously at the time of encoding. Moreover, giving participants extra time before retrieval, without explicitly instructing them to name stimuli, enhanced the effect of verbalization and confirmed our assumption about the existence of spontaneous verbalization.

Moral Justifications for Lying to a Family Member with Dementia

Amy Hodel[♦], Sarah Barron, Jarad Strong, Alexandria Ebert[♦]—West Virginia University, Kassidy Urbanek (Dr. Anca Miron)
Psychology
Poster Presentation (P43)

We examined two types of morality orientations employed when justifying lying to one's family member with dementia: a *principled morality* orientation, based on universal ethical principles (Kohlberg, 1973) versus Gilligan's (1982) *morality of care orientation*, based on understanding and addressing the emotional needs and feelings of others. Participants who either had a living family member with dementia (dementia group; $N = 21$) or did not have a living family member with dementia (non-dementia group; $N = 35$) read eight vignettes depicting individuals considering whether to deceive or tell the truth to a relative with dementia. Participants' moral justifications for lying or not lying were then coded and analyzed. Participants in the

dementia group were less likely to refer to obligations, duties, and commitments as justifications for lying or telling the truth, less likely to agree with tricking the relative or with evading lying (by distracting the person) and somewhat more likely to indicate that lying is not the correct choice. These responses suggest a complex moral orientation of participants in the dementia group.

The Effects of Perceived Male Managers' Standards of Injustice on Women's Job Negotiation Outcomes

Madison Malcore, Janelle Carlson, Stephanie Hartling and Kathleen Hodges (Dr. Anca Miron)
Psychology
Poster Presentation (P44)

Past research found that women are less likely to negotiate for higher salaries because they fear backlash from male managers. This experiment tested the hypothesis that when negotiating for their own salary, women's perception of the company's efforts to reduce gender wage inequality will impair women's ability to negotiate successfully for a fair salary. Female participants learned that they had received a junior manager position and were about to negotiate their salary with a senior male manager from that company. Women were informed that the company's senior male managers believed that if 10% (*low standards condition*) or 70% of women (*high standards condition*) in the company were negatively affected by the wage gap, then that was unfair. *Control* participants received no information about the male managers' views. Participants then filled out questionnaires regarding their feelings about negotiating with one of the male managers, their likelihood to negotiate, their perceptions of the company, and demographic forms. Participants were also asked to write out their own negotiation script that they would plan to use in this situation.

The Effect of Diurnal Changes on Memory for Environmental Sounds

Anu Enkh-Amgalan, Travis Peer, Marjorie Peterson and Allison Smith (Dr. Justyna Olszewska)
Psychology
Oral Presentations Session II
Reeve Union Room 209 (8:30 – 9:15 a.m.)

There is considerable evidence that the time of day when cognitive tasks are performed affects the quality

of performance differently. According to Folkard (1979), people place more reliance on verbal elaborative processing in the evening and more on verbal maintenance processing in the morning. However, recently in our lab we have found that this is not modality invariant. Consequently, that led to the current study where we tested how processing environmental sounds, that do not contain a verbal component, can engage only auditory modality that is affected by time of day. We presented participants with meaningful and meaningless environmental sounds and we examined short- and long-term memory in the morning and in the evening. Consistent with previous findings, the results showed more false alarms to both types of sounds in the morning than in the evening. This demonstrates that an acoustic component rather than a phonological component plays a crucial role in diurnal changes.

Perceptual Fluency's Effect on False Memories Using the DRM Paradigm

Marjorie Peterson, Allison Smith, Anu Enkh-Amgalan, Travis Peer, Emma Sanfilippo, Micah Decker, Sarah DeLaporte and Amanda Peterson (Dr. Justyna Olszewska)
Psychology
Poster Presentation (P45)

The ability to process information with ease is commonly known as perceptual fluency. In the current study we applied the classic DRM paradigm (Roediger & McDermott, 1995) in order to investigate perceptual fluency's effect on rates of false memories. Using both a between-subjects and a within-subjects design, we manipulated font type (Mistral vs. Times New Roman) and time of presentation (300ms, 1000ms, vs 1700ms). It was hypothesized that participants would make fewer errors for mistral words during recall and recognition as compared to a normal font. We also hypothesized that participants would have more errors with a shorter presentation time and less error for a longer presentation time. Results indicated no effect of font type. An effect of presentation type was found demonstrating more errors with a shorter presentation (300ms) and less errors as time presentation increases. The results are discussed for recall and recognition as well as for two manipulations: within- and between-subjects.

The Impact of Processing Style on Susceptibility to Post-Event Misinformation

Allison Smith, Ashley Xiong, Jenna Nourse, Jamie Luehring, Sedona Sieg, Brittany Burgess and Alexander Johnson (Dr. Quin Chrobak)
Psychology
Poster Presentation (P46)

Extensive scientific literature documents that exposure to post-event misinformation can lead to false memories for items and events that were never actually experienced (e.g., Loftus, 2005). Additionally, previous research has demonstrated that the type of processing style that an individual adopts (e.g., intuitive vs. deliberative) can influence susceptibility to certain cognition illusions (e.g., the Moses Illusion; Song & Schwarz, 2008). Critically, research has demonstrated that a switch from a more intuitive processing approach to a more deliberative one can be induced by presenting information in a *disfluent*, or difficult-to-read, font (e.g., *Brush Script MT*). The goal of the present investigation was to examine how processing style can influence an individual's susceptibility to post-event misinformation. Participants viewed an eyewitness event, were subsequently presented with misleading information, and then tested on their memory for the witnessed event. To explore the role of processing style on the misinformation effect, the font of the presented materials was manipulated (i.e., fluent vs. disfluent) at the time of exposure to the misinformation and at the time of test. Results and implications for these findings are discussed.

Can Corrections Reduce Eyewitness Suggestibility?: The Explanatory Role as a Determinant of Resistance to Correction

Christina Ravenscraft, Casey Wilson, Makenzie Meendering, Marjorie Peterson, Morgan Raube and Blair Braun*—Kent State University
(Dr. Quin Chrobak)
Psychology
Poster Presentation (P47)

Scientific literature documents that exposure to misinformation can lead to false memories for items and events that were never actually experienced. One important determinant of false memory development is the explanatory role that misinformation serves. Specifically, previous research has demonstrated that

witnesses are more likely to develop false memories for suggested misinformation that explains a consequential outcome than misinformation that does not (e.g., Chrobak & Zaragoza, 2013). The current study sought to assess whether false memories resulting from misinformation can be reversed through correction and, if so, whether misinformation that serves an explanatory function is more resistant to correction. Results indicated that a correction coupled with an alternative explanation (but not a correction alone) was effective in reducing false memory regardless of whether or not the misinformation served an explanatory role. However, even following a correction, false memory development was greater when the misinformation served an explanatory role than when it did not. To our knowledge, this is the first study on eyewitness suggestibility to examine the use of specific corrections in reversing false memory development.

The Effects of Perceived Women's Standards regarding Gender Inequality on Men's Appraisals of the Gender Wage Gap

Michael Tylor Robert Losser*, Troy Othrow*, Zachary Bukowski* and Jarad Strong*
(Dr. Anca Miron)
Psychology
Poster Presentation (P48)

Compared to women, men are less likely to perceive gender inequality and need more evidence to determine that the gender wage gap discrepancy is unfair. The current study seeks to examine the effects of perceived women's standards of injustice on men's solidarity with women. In the context of gender wage inequality, we defined women's injustice standards as the amount of evidence that women require to determine that the gender wage gap is unfair to them. Men were informed that women either set a low standard for concluding that the gender wage gap is unfair to women (*low standards* condition), or a high standard (*high standards* condition), or were given no information (*control* condition). We predicted that when men are told that women require a low amount of evidence, men will more readily recognize gender inequality than when told that women require a high amount of evidence or when were given no information. The results will increase our understanding of the processes through which men can be persuaded to be in solidarity with women with regard to addressing the gender wage gap.

How Does Cyberbullying Affect the Mental Health of Adolescents?

Nickayla Cosey (Dr. Orlee Hauser)
Sociology
Poster Presentation (P49)

When conducting research, I expect to find research on what teachers, school administrators, and parents can do to eliminate cyberbullying. I plan to learn more on the effects cyberbullying has on not only the victims but the perpetrators as well. I hope to find research on what makes a student bully others. I also want to see what students' perceptions of cyberbullying are and why is it ignored more than it is reported.

My sampling design will consist of surveying a diverse population in Wisconsin from various socioeconomic and ethnic backgrounds. Thus I will code and analyze respondents' personal experiences with cyberbullying and compare this data with students' perceptions on this topic.

Physical and Mental Disabilities and Their Portrayal in Film

Kaylee Durant (Dr. Orlee Hauser)
Sociology
Poster Presentation (P50)

For my research project I decided to do a content analysis on the portrayal of people with mental and physical disabilities in film. In doing this content analysis I will devise a spreadsheet for the criteria that I will be looking for in each movie. Some specifics that I will be looking for are gender, age, ethnicity, disability type, potential caregiver (age, gender, how is that person related), and depiction (good, bad or in between). All of these criteria are very important because this will ultimately help me devise a conclusion on how the disability is portrayed. By doing this research I hope to find out that the movie industry is evolving by portraying people with disabilities in a positive manner, that they can do things on their own, and that they are real people. My goal is to educate the public by saying that their views on disabilities need to be changed to positive ones.

Perceptions of Sexual Violence at UW Oshkosh

Ryan Fay (Dr. Orlee Hauser)
Sociology

Poster Presentation (P51)

This research examines the perceptions of UW Oshkosh students regarding sexual violence on our campus and in the surrounding area. The goal is to survey local conditions on this issue, which has garnered national attention lately, and compare local perceptions to the national mood. This comparison will help uncover what underlying systematic issues and challenges UW Oshkosh students deal with regarding sexual violence. Specific factors to be considered are alcohol/party culture, sexual violence education, and differences in perception by gender regarding sexual violence.

A Content Analysis of PG-13 Movies over the Years

Kaylie Kohel (Dr. Orlee Hauser)
Sociology
Poster Presentation (P52)

This is a content analysis of the ratings of PG-13 movies since 1984 (when the PG-13 rating came to be). Based on the MPAA categories of language, sexual content/nudity, and violence, it is broken down in this project to find out what is allowed in PG-13 movies today versus in the past. Watching the top grossing movies from each year since 1984 and coding them for the certain categories allows a pattern to emerge. Based on existing studies, the MPAA has let more violent content slip into PG-13 movies as time goes on.

How Religion Affects Mental and Physical Health

Madeline Kopshinsky (Dr. Orlee Hauser)
Sociology
Poster Presentation (P53)

For my research presentation, I will look at how religious views and practices affect adults' health. The main research question is "Do religious views and practices have an effect on mental health in adults?" A sub-question is "Does religious practice have an effect on adults' health?" I will be conducting five interviews with people who identify as religious and some people who identify as non-religious. I want to find out the impact religion has had on their life satisfaction and overall mental health. I expect to find both positive and negative correlations on the effect of mental health and religion. I also hope to find examples from my interviewees about how their

views have helped them in life. I will compare scholarly articles to my interview data.

Views on the Death Penalty in America

Kenny Peters (Dr. Orlee Hauser)

Sociology

Poster Presentation (P54)

For my research I will be looking at how different groups of people view the death penalty. Using the general social survey I will determine if there is a difference in how races view capital punishment and how the views changed over time.

Health in Planning: Considering the Influence of Land Use Decisions on Social Isolation in Contrast to Social Loneliness

Sarah Reed* (Dr. Jeremiah Bohr)

Sociology

Oral Presentations Session II

Reeve Union Room 209 (8:30 – 9:15 a.m.)

While current public health organizations have adopted initiatives that require consideration of how land use/planning decisions impact health outcomes, these initiatives typically fail to consider how land use impacts residents' social/mental wellbeing. This study aims to explore the relationship between housing, land use, and policy, with the quantity, quality, and accessibility of social relationships in a comparative, geospatial analysis of the city of Oshkosh. By understanding patterns of social connectedness and access to meaningful relationships, key public health stakeholders can respond in a targeted/preventable manner as methods to combat one experience may not be as effective for the other. Specifically, the study looks to understand the differences between social isolation versus social loneliness in terms of its patterns and residents who experience one or both.

Housing Segregation in Wisconsin

Jordyn Schraeder (Dr. Jeremiah Bohr)

Sociology

Oral Presentations Session V

Reeve Union Room 209 (9:30 – 10:30 a.m.)

Housing segregation is a complex barrier that has a deeply rooted history in the United States. Milwaukee has been ranked as the nation's most segregated city, but the state's largest city is not representative of Wisconsin. This research takes a deeper look at

segregation across the state of Wisconsin, specifically in cities with a high segregation rating (dissimilarity index) that have a population of 38,000 or higher. This project explores characteristics of Wisconsin cities to understand where segregation exists in the state and to what extent.

Poverty and the Effects on Maternal Health

Breonna Shaw (Dr. Orlee Hauser)

Sociology

Poster Presentation (P55)

The focus of this research is to determine if there is a difference in the health services and caretaking of women who depend on the assistance of the government and women who can afford their own health insurance. A lot of quantitative research has been conducted on how low socioeconomic status affects many different outcomes of health, including pregnancy. Also, much research has been conducted that shows ethnic groups are prone to having problems during pregnancy, not only because of their biological makeup but because of low income. However, there isn't much research on healthcare itself. Government-assisted healthcare has pros and cons and this research looks at the experiences of women who received government-assisted healthcare during their pregnancies. I will interview women from different socioeconomic backgrounds. Also, I will use secondary data that shows the benefits of government-assisted healthcare and the "average" healthcare a person pays for or gets through a job. This secondary data will highlight similarities or differences of the services women can receive from their healthcare.

Disparities and Differences of Mass Media Depicting Inmates

Danielle Shelley (Dr. Orlee Hauser)

Sociology

Poster Presentation (P56)

Prisons continue to grow in popularity as a subject of TV series, dramas, and documentaries in popular culture. Considering the ever-growing prison population and the challenges facing the U.S. correctional system, it is important to look at this phenomenon using our sociological eye to understand how it is affecting a large part of the U.S. population. With my research I am comparing how American inmate experiences in television series differ from

those in real life. Because television series reach a large audience of American viewers, understanding the gap between the public's perception of prison experience and the reality may help to create a more compassionate discourse around the issue. Using research based on series that have trended on Netflix and other media platforms, I have made an analysis that will be relevant to current popular culture.

Fast Food Commercials and Their Impact on "Healthy"

Katrina Smith (Dr. Orlee Hauser)

Sociology

Poster Presentation (P57)

This research examines commercials to see if fast-food companies influence each other on the marketing of healthy food. Throughout this research, commercials are compared to see if the definition of healthy eating varies among companies. This study looks at five fast-food commercials to compare how each restaurant perceives healthy foods. Companies are rated both by consumer surveys and the amount of healthy food items on their menus to ensure there are no biased choices. The study also examines the "health halo," which is healthy branding that has more of an impact on perceptions than behavior. Customers at these restaurants tend to add high-calorie items to their food creating the illusion that the food is still healthy.

The Effect of Business Size and Type on Twitter Usage

Cody Sweeney (Dr. Orlee Hauser)

Sociology

Poster Presentation (P58)

The increasingly prevalent use of social media in business operations has the potential to influence societies in ways that have not been observed. Social media allows institutions to better communicate with their potential customers and the public at large. This study specifically looks at the trends and methods businesses use on the social media site Twitter. In this study I compare 100 companies from the 2018 *Fortune* 500 list with 100 companies from the *Inc.* 500 list. This collection of text is then analyzed by business type and size to see if there are potential trends and social impacts being made. The text is gathered and analyzed by an open source program called RStudio.

Breast Cancer in Women within Wisconsin Counties

Morgan Vechart (Dr. Orlee Hauser)

Sociology

Poster Presentation (P59)

Breast cancer is a disease in which malignant cells form in the tissue of the breast. It is the second leading cause of death for women. This study investigates why women are developing breast cancer in certain Wisconsin counties. The primary focus of this research is the likelihood of Wisconsin women developing breast cancer based on county and median household income. This research explores factors that contribute to breast cancer in women, and why some have higher chances than others based on geographical location and median household income. Statistical analysis will show if median household income and geographical location contribute to a woman's likelihood of developing breast cancer. Early detection and understanding saves women's lives!

Hmong Adults' Attitudes on Dating Violence within Their Community

Amanda Vue (Dr. Orlee Hauser)

Sociology

Poster Presentation (P60)

This study investigates how Hmong adults perceive dating violence within their community. As the Hmong population continues to grow in the United States, members of this community begin to become more acculturated or assimilated into American culture and its belief system. This often brings a clash of ideologies between parents and their children who may not agree with the traditional behaviors and attitudes of the Hmong culture especially in terms of gender roles. The researcher suggests that acculturation could influence how one perceives dating violence within their community, which she seeks to answer through this research. Surveys and interviews were conducted to gather data about Hmong adults' opinions on dating violence. Topics included victim blaming and shaming in the Hmong culture. Many participants shared that their community needs to be educated about gender equality and the effects of dating and domestic violence.

Index of Presenters

Alphabetical by students' last names.

* Denotes a recipient of the FY 2018–19 Student/Faculty Collaborative Research program grant and Small Grants awarded by the Office of Student Research and Creative Activity.

♦ Denotes a graduate student.

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Poster Session ~ #41	Tori Acton <i>Psychology</i>	An Examination of Implicit and Explicit Attitudes toward Consensual Nonmonogamy	20
Poster Session ~ #20	Nicole Adams <i>English</i>	Reddit as a Safe Place?: Examining Tensions between Free Speech and Identity Formation amongst Trans/Gender Non-Conforming Individuals	11
Poster Session ~ #9	Becca Amick <i>Chemistry</i>	The Subcellular Localization of Small Protein MntS in <i>Escherichia coli</i>	6
Oral Presentations Session I Reeve Union Room 220 (8:30 – 9:30 a.m.)	Jane Ballesteros* ♦ <i>Biology</i>	<i>Deinococcus</i> Habitat Distribution, Relative Abundance and Sequence Identity in Public Metagenomic Datasets	2
Poster Session ~ #2	Colin Baltz <i>Biology</i>	Does Echolocation Result in Smaller Eyes in Whales?	2
Poster Session ~ #10	Cody Beck* <i>Chemistry</i>	Dynamic NMR Study of Carbon-Nitrogen Bond Rotation Barrier and Substituent Effects	7
Performance Presentations Reeve Ballroom 227C (8:30 – 9:15 a.m.)	Matthew Beecher <i>Music</i>	Bridging the Gap: How <i>Craigslistlieder</i> Revitalizes Classical Repertoire to Modern Audiences	16
Poster Session ~ #21	Brianna Beseler* <i>Geography</i>	Long-Term Fire History from Bass Lake Northeastern Wisconsin	12
Poster Session ~ #22	Brianna Beseler* <i>Geography</i>	Characterizing the Geomorphology of Coastal Montane Streams in Jamaica: Implications of Land Use Change and Increased Hurricane Frequency	19

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Visual Art Presentations Reeve Ballroom 227AB (11:00 a.m. – 1:00 p.m.)	Zel Billings* <i>Art</i>	Wire Woods: Inspiration by the Trees of UWO	1
Visual Art Presentations Reeve Ballroom 227AB (11:00 a.m. – 1:00 p.m.)	Zel Billings* <i>Art</i>	Wire Weft: A Study in Cloth and Metal	1
Poster Session ~ #38	Cameron Blankenship <i>Psychology</i>	Perceived Researcher Youthfulness Moderates the Effect of Infant-Like Characteristics on Empathic Concern toward a Person in Need	19
Poster Session ~ #3	Aminata Bojang <i>Biology</i>	Quantifying Mast Cells during Obesity in Ground Squirrels	3
Oral Presentations Session VI Reeve Union Room 210 (9:30 – 10:15 a.m.)	Constance Bougie* <i>English</i>	A Manner in Which Norms Might Be Skirted	11
Poster Session ~ #40	Haley Bowers* <i>Psychology</i>	Women’s Responses to Perceived Men’s Injustice Standards in the Context of Gender Wage Inequality	20
Poster Session ~ #40	Meghan Brzinski* <i>Psychology</i>	Women’s Responses to Perceived Men’s Injustice Standards in the Context of Gender Wage Inequality	20
Poster Session ~ #48	Zachary Bukowski* <i>Psychology</i>	The Effects of Perceived Women’s Standards regarding Gender Inequality on Men’s Appraisals of the Gender Wage Gap	23
Poster Session ~ #40	McKayla Bullock* <i>Psychology</i>	Women’s Responses to Perceived Men’s Injustice Standards in the Context of Gender Wage Inequality	20
Poster Session ~ #46	Brittany Burgess <i>Psychology</i>	The Impact of Processing Style on Susceptibility to Post-Event Misinformation	23
Poster Session ~ #40	Destany Calma-Birling* <i>Psychology</i>	Women’s Responses to Perceived Men’s Injustice Standards in the Context of Gender Wage Inequality	20
Poster Session ~ #41	Destany Calma-Birling* <i>Psychology</i>	An Examination of Implicit and Explicit Attitudes toward Consensual Nonmonogamy	20

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Poster Session ~ #18	Cesar Campos-Martinez <i>Engineering Technology– Fox Valley Campus</i>	Electric Basic Utility Vehicle	10
Poster Session ~ #44	Janelle Carlson <i>Psychology</i>	The Effects of Perceived Male Managers’ Standards of Injustice on Women’s Job Negotiation Outcomes	22
Poster Session ~ #11	Zachary Chambers* <i>Chemistry</i>	Formation of Struvite in Simulated Wastewater Using Naturally Abundant Low-Soluble Magnesium Precursors	7
Poster Session ~ #23	Michael Clark* <i>Geology</i>	The Origin and Composition of the Iron-Rich Neda Formation, Eastern Wisconsin: From Ancient Oceans to Economic Iron Ore	13
Poster Session ~ #49	Nickayla Cosey <i>Sociology</i>	How Does Cyberbullying Affect the Mental Health of Adolescents?	24
Poster Session ~ #38	Colin Daniels <i>Psychology</i>	Perceived Researcher Youthfulness Moderates the Effect of Infant-Like Characteristics on Empathic Concern toward a Person in Need	19
Performance Presentations Reeve Ballroom 227C (8:30 – 9:15 a.m.)	Stephen DCamp <i>Music</i>	Beethoven’s Piano Quartet in E flat major, Op. 16, Andante Cantabile	17
Poster Session ~ #45	Micah Decker <i>Psychology</i>	Perceptual Fluency’s Effect on False Memories Using the DRM Paradigm	22
Poster Session ~ #45	Sarah DeLaporte <i>Biology</i>	Perceptual Fluency’s Effect on False Memories Using the DRM Paradigm	22
Oral Presentations Session V Reeve Union Room 209 (9:30 – 10:30 a.m.)	Anna Dinkel <i>History</i>	Aristocratic Expectations of Motherhood in 12th and 13th Century England	15
Poster Session ~ #38	Annie Docter <i>Psychology</i>	Perceived Researcher Youthfulness Moderates the Effect of Infant-Like Characteristics on Empathic Concern toward a Person in Need	19
Poster Session ~ #39	Annie Docter* <i>Psychology</i>	External Mindfulness and Nursing Simulation	20
Poster Session ~ #50	Kaylee Durant <i>Sociology</i>	Physical and Mental Disabilities and Their Portrayal in Film	24

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Oral Presentations Session III Reeve Union Room 210 (8:30 – 9:15 a.m.)	Jessica Dybul <i>Education</i>	Levels of Motivation in College Students Pursuing a Degree in Foreign Language	10
Poster Session ~ #17	Megan Elger <i>Communication Studies– Fond du Lac Campus</i>	Social Interaction and Media Behavior: Political Engagement among Gen Z	9
Poster Session ~ #45	Anu Enkh-Amgalan <i>Psychology</i>	Perceptual Fluency’s Effect on False Memories Using the DRM Paradigm	22
Poster Session ~ #51	Ryan Fay <i>Sociology</i>	Perceptions of Sexual Violence at UW Oshkosh	24
Poster Session ~ #19	Yanet Fernandez <i>Engineering Technology– Fox Valley Campus</i>	Coverage of Water Issues in Wisconsin’s Print Media	11
Poster Session ~ #42	Monica Fieck <i>Psychology</i>	Examining Solidarity among College Women in Response to Gender Inequality	21
Oral Presentations Session IV Reeve Union Room 220 (9:30 – 10:15 a.m.)	Jen Fossen [†] <i>Biology</i>	A Genomic View of <i>Escherichia coli</i> Diversity from Dairy Calves	3
Poster Session ~ #12	Kara Gillette <i>Chemistry</i>	The Effect of Acid Strength on Catalytic Conversion of CO ₂ to Value-Added Chemicals	7
Performance Presentations Reeve Ballroom 227C (8:30 – 9:15 a.m.)	Jon Glowcheski <i>Music</i>	Beethoven’s Piano Quartet in E flat major, Op. 16, Andante Cantabile	17
Oral Presentations Session I Reeve Union Room 220 (8:30 a.m. – 9:30 a.m.)	Matthew Gondek ^{†*} <i>Biology and Environmental Studies</i>	Habitat Use by Whooping Cranes (<i>Grus americana</i>) in Eastern Wisconsin	3
Visual Art Presentations Reeve Ballroom 227AB (11:00 a.m. – 1:00 p.m.)	Noell Graf [*] <i>Art</i>	Painting Mud	1
Poster Session ~ #4	Phillip Gruber [*] <i>Biology and Environmental Studies</i>	The Effects of Anthropological Noise on Bird Feeder Ecosystems	4
Poster Session ~ #1	Melanie Gruenstern [*] <i>Anthropology</i>	The Universal PMI: The Effects of Variation and Climate on Decomposition	1

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Poster Session ~ #24	Zach Henderson <i>Geology</i>	Temporal Patterns of Crustal Reworking Over Earth History	13
Performance Presentations Reeve Ballroom 227C (8:30 – 9:15 a.m.)	Molly Hennig <i>Music</i>	Five Hebrew Love Songs	17
Visual Art Presentations Reeve Ballroom 227AB (11:00 a.m. – 1:00 p.m.)	Chloe Hirschberg* <i>Art</i>	Nature’s Blueprint	1
Oral Presentations Session II Reeve Union Room 209 (8:30 – 9:15 a.m.)	Amy Hodel* <i>Psychology</i>	With Concreteness Details Fade: Dissociative Effect of Labeling of Concrete and Abstract Stimuli on Memory	21
Poster Session ~ #43	Amy Hodel* <i>Psychology</i>	Moral Justifications for Lying to a Family Member with Dementia	21
Poster Session ~ #29	Daniel Isaacs <i>Physics and Astronomy</i>	Titania Nanofibers as Catalyst Support Structures	18
Poster Session ~ #35	Jacqueline Karlin* <i>Nursing</i>	Family Nurse Practitioner Students’ Knowledge, Attitudes, and Self-Efficacy in the Care of LGBT Patients in the Primary Care Setting	17
Performance Presentations Reeve Ballroom 227C (8:30 – 9:15 a.m.)	Hope Schaefer Kemps <i>Music</i>	Beethoven’s Piano Quartet in E flat major, Op. 16, Andante Cantabile	17
Poster Session ~ #38	Nathan Klug <i>Psychology</i>	Perceived Researcher Youthfulness Moderates the Effect of Infant-Like Characteristics on Empathic Concern toward a Person in Need	19
Poster Session ~ #52	Kaylie Kohel <i>Sociology</i>	A Content Analysis of PG-13 Movies over the Years	24
Poster Session ~ #53	Madeline Kopshinsky <i>Sociology</i>	How Religion Affects Mental and Physical Health	24
Oral Presentations Session V Reeve Union Room 209 (9:30 – 10:30 a.m.)	Jacob Kroll* <i>Foreign Languages and Literatures</i>	French in Northeast Wisconsin	12
Poster Session ~ 18	Chin Yan Lee <i>Engineering Technology–Fox Valley Campus</i>	Electric Basic Utility Vehicle	10

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Oral Presentations Session III Reeve Union Room 210 (8:30 – 9:15 a.m.)	Stephanie Liechty <i>International Studies</i>	Doomed in Dependency: Health Governance in Sub-Saharan Africa and the Rise of Non-Communicable Disease	15
Oral Presentations Session IV Reeve Union Room 220 (9:30 – 10:15 a.m.)	Jason Lopez <i>Chemistry</i>	Synthesis of (R)- and (S)-2-methylproline	8
Poster Session ~ #48	Michael Tylor Robert Losser* <i>Psychology</i>	The Effects of Perceived Women’s Standards regarding Gender Inequality on Men’s Appraisals of the Gender Wage Gap	23
Poster Session ~ #13	Rachel Luedtke* <i>Chemistry</i>	Histone Acetyltransferases and Mitosis	8
Poster Session ~ #46	Jamie Luehring <i>Psychology</i>	The Impact of Processing Style on Susceptibility to Post-Event Misinformation	23
Poster Session ~ #40	Deanna Luttenberger* <i>Psychology</i>	Women’s Responses to Perceived Men’s Injustice Standards in the Context of Gender Wage Inequality	20
Oral Presentations Session VI Reeve Union Room 210 (9:30 – 10:15 a.m.)	Kristen Mahan* <i>English</i>	Testing the Effectiveness of A Male-Targeted Infertility Social Media Campaign: Providing Educational Resources and Reducing Stigma by Building an Online Community of Support	11
Poster Session ~ #25	Daniel Makowsky* <i>Geology</i>	Reactivity of Carbonate Minerals as Measured by Isotopic Exchange	13
Poster Session ~ #39	Madison Malcore <i>Psychology</i>	External Mindfulness and Nursing Simulation	20
Poster Session ~ #44	Madison Malcore <i>Psychology</i>	The Effects of Perceived Male Managers’ Standards of Injustice on Women’s Job Negotiation Outcomes	22
Poster Session ~ #41	Samara Markle <i>Psychology</i>	An Examination of Implicit and Explicit Attitudes toward Consensual Nonmonogamy	20
Poster Session ~ #33	Eleftheria Mavraganis <i>Kinesiology</i>	Development of 1-Repetition-Maximum Prediction Equations for Squat in Division III Female Athletes	16
Poster Session ~ #38	Alex May <i>Psychology</i>	Perceived Researcher Youthfulness Moderates the Effect of Infant-Like Characteristics on Empathic Concern toward a Person in Need	19

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Poster Session ~ #41	Alex May <i>Psychology</i>	An Examination of Implicit and Explicit Attitudes toward Consensual Nonmonogamy	20
Poster Session ~ #42	Rachel Mazurek <i>Psychology</i>	Examining Solidarity among College Women in Response to Gender Inequality	21
Poster Session ~ #5	Shelby McIlheran* <i>Biology</i>	The Influence of Road Salt on Organic Matter Decomposition and the Species Composition and Performance of Decomposers	4
Poster Session ~ #47	Makenzie Meendering <i>Psychology</i>	Can Corrections Reduce Eyewitness Suggestibility?: The Explanatory Role as a Determinant of Resistance to Correction	23
Poster Session ~ #36	Kevin Mohawk* <i>Nursing</i>	Real Life Challenges Encountered by International Students Applying To and Entering a Family Nurse Practitioner Program	18
Poster Session ~ #46	Jenna Nourse <i>Psychology</i>	The Impact of Processing Style on Susceptibility to Post-Event Misinformation	23
Poster Session ~ #48	Troy Othrow* <i>Psychology</i>	The Effects of Perceived Women's Standards Regarding Gender Inequality on Men's Appraisals of the Gender Wage Gap	23
Poster Session ~ #30	Heather Pace <i>Physics and Astronomy</i>	Experimental Particle Physics at the PANDA Detector	18
Oral Presentations Session I Reeve Union Room 220 (8:30 – 9:30 a.m.)	Logan Pearson <i>Biology</i>	Phenotypic and Genotypic Diversity among Putative <i>Deinococcus aquaticus</i> Isolates from Metal Substrate in Fox River	4
Poster Session ~ #45	Travis Peer <i>Psychology</i>	Perceptual Fluency's Effect on False Memories Using the DRM Paradigm	22
Poster Session ~ #54	Kenny Peters <i>Sociology</i>	Views on the Death Penalty in America	25
Poster Session ~ #45	Amanda Peterson <i>Psychology</i>	Perceptual Fluency's Effect on False Memories Using the DRM Paradigm	22
Oral Presentations Session II Reeve Union Room 209 (8:30 – 9:15 a.m.)	Marjorie Peterson <i>Psychology</i>	The Effect of Diurnal Changes on Memory for Environmental Sounds	22
Poster Session~ #45	Marjorie Peterson <i>Psychology</i>	Perceptual Fluency's Effect on False Memories Using the DRM Paradigm	22

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Poster Session ~ #47	Marjorie Peterson <i>Psychology</i>	Can Corrections Reduce Eyewitness Suggestibility?: The Explanatory Role as a Determinant of Resistance to Correction	23
Oral Presentations Session V Reeve Union Room 209 (9:30 – 10:30 a.m.)	Will Poppen <i>Music</i>	Creating an Interactive Soundscape for Videogames	17
Poster Session ~ #14	Kimberly Preissner <i>Chemistry</i>	Determining MntS Native Structure Using Blue Native Gel Electrophoresis, 2D Gel Electrophoresis, and Western Blotting	8
Poster Session ~ #38	Brenna Prieto <i>Psychology</i>	Perceived Researcher Youthfulness Moderates the Effect of Infant-Like Characteristics on Empathic Concern toward a Person in Need	19
Poster Session ~ #47	Morgan Raube <i>Psychology</i>	Can Corrections Reduce Eyewitness Suggestibility?: The Explanatory Role as a Determinant of Resistance to Correction	23
Poster Session ~ #47	Christina Ravenscraft <i>Psychology</i>	Can Corrections Reduce Eyewitness Suggestibility?: The Explanatory Role as a Determinant of Resistance to Correction	23
Oral Presentations Session II Reeve Union Room 209 (8:30 –9:15 a.m.)	Sarah Reed* <i>Sociology</i>	Health in Planning: Considering the Influence of Land Use Decisions on Social Isolation in Contrast to Social Loneliness	25
Poster Session ~ #15	Grace Robertson <i>Chemistry</i>	The Influence of the Number and Positioning of Intramolecular Acids on Carbon Dioxide Reduction Catalysts	9
Poster Session ~ #34	Miranda Rudnick <i>Kinesiology</i>	Wisconsin High School Basketball Coach Perceptions of Players' Ankle Support Practices	16
Poster Session ~ #26	Nicole Salchert <i>Geology</i>	Assessing Petroleum Reservoir Development in the Anadarko Basin, Oklahoma	14
Poster Session~ #27	Nicole Salchert* <i>Geology</i>	Characterizing Magma Evolution with Crystal Cargo Chemistry in Basalts of the Southernmost Cascades	14
Poster Session~ #45	Emma Sanfilippo <i>Psychology</i>	Perceptual Fluency's Effect on False Memories Using the DRM Paradigm	22

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Oral Presentations Session V Reeve Union Room 209 (9:30 – 10:30 a.m.)	Jordyn Schraeder <i>Sociology</i>	Housing Segregation in Wisconsin	25
Poster Session ~ #28	Elijah Schukow <i>Geology</i>	Exploring Seasonal Variations in Fluxes to Gardner Swamp, Door County, Wisconsin	14
Poster Session ~ #16	Luke Seuffer <i>Chemistry</i>	Assessing the Role of Alx, a Membrane Protein, in <i>Escherichia coli</i>	9
Poster Session ~ #31	Nicholas Sevenz <i>Physics and Astronomy</i>	Properties of the Large Magellanic Cloud Globular Clusters Using RR Lyrae Stars	19
Poster Session ~ #55	Breonna Shaw <i>Sociology</i>	Poverty and the Effects on Maternal Health	25
Poster Session ~ #56	Danielle Shelley <i>Sociology</i>	Disparities and Differences of Mass Media Depicting Inmates	25
Oral Presentations Session III Reeve Union Room 210 (8:30 – 9:15 a.m.)	Alex Siebers* <i>Education</i>	Comparative Analysis of Math Teacher Training Programs	10
Poster Session ~ #46	Sedona Sieg <i>Psychology</i>	The Impact of Processing Style on Susceptibility to Post-Event Misinformation	23
Oral Presentations Session II Reeve Union Room 209 (8:30 – 9:15 a.m.)	Allison Smith <i>Psychology</i>	The Effect of Diurnal Changes on Memory for Environmental Sounds	22
Poster Session ~ #45	Allison Smith <i>Psychology</i>	Perceptual Fluency’s Effect on False Memories Using the DRM Paradigm	22
Poster Session ~ #46	Allison Smith <i>Psychology</i>	The Impact of Processing Style on Susceptibility to Post-Event Misinformation	23
Poster Session ~ #57	Katrina Smith <i>Sociology</i>	Fast Food Commercials and Their Impact on “Healthy”	26
Performance Presentations Reeve Ballroom 227C (8:30 – 9:15 a.m.)	Isabel Sorebo <i>Music</i>	Five Hebrew Love Songs	17

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Oral Presentations Session IV Reeve Union Room 220 (9:30 – 10:15 a.m.)	Kasey Stewart * <i>Biology and Environmental Studies</i>	Bald Eagle Prey Choice and Implications for Management of Endangered Whooping Cranes	5
Performance Presentations Reeve Ballroom 227C (8:30 – 9:15 a.m.)	Brooke Strickert <i>Music</i>	Beethoven’s Piano Quartet in E flat major, Op. 16, Andante Cantabile	17
Poster Session ~ #48	Jarad Strong * <i>Psychology</i>	The Effects of Perceived Women’s Standards regarding Gender Inequality on Men’s Appraisals of the Gender Wage Gap	23
Poster Session ~ #58	Cody Sweeney <i>Sociology</i>	The Effect of Business Size and Type on Twitter Usage	26
Poster Session ~ #40	Tatiana Swisher * <i>Psychology</i>	Women’s Responses to Perceived Men’s Injustice Standards in the Context of Gender Wage Inequality	20
Visual Art Presentations Reeve Ballroom 227AB (11:00 a.m. – 1:00 p.m.)	Laura Tymm * <i>Art</i>	Nature’s Blueprint	1
Poster Session ~ #41	Kassidy Urbanek <i>Psychology</i>	An Examination of Implicit and Explicit Attitudes toward Consensual Nonmonogamy	20
Poster Session ~ #32	Timothy Van Rooy <i>Physics and Astronomy</i>	Stellar Populations in the Galaxy NGC 6822	19
Oral Presentations Session I Reeve Union Room 220 (8:30 – 9:30 a.m.)	Hayley Vandenoorn * <i>Biology</i>	Evolution of Plant Responses to Unpredictable Environments	5
Poster Session ~ #59	Morgan Vechart <i>Sociology</i>	Breast Cancer in Women within Wisconsin Counties	26
Poster Session ~ #6	Angela Vickman <i>Biology</i>	Epigenetic Influences on Plant Responses to the Environment	5
Poster Session ~ #60	Amanda Vue <i>Sociology</i>	Hmong Adults’ Attitudes on Dating Violence within Their Community	26
Visual Art Presentations Reeve Ballroom 227AB (11:00 a.m. – 1:00 p.m.)	Shelby Weber * <i>Art</i>	Interactive Inflatable Sculpture Research and Experimentation	2

<u>Session</u>	<u>Student</u>	<u>Project Title</u>	<u>Page</u>
Oral Presentations Session VI Reeve Union Room 210 (9:30 – 10:15 a.m.)	Whitney Wender <i>Journalism</i>	The Rise of Influencer Marketing	15
Poster Session ~ #40	Brittany Wierzba [†] <i>Psychology</i>	Women’s Responses to Perceived Men’s Injustice Standards in the Context of Gender Wage Inequality	20
Poster Session~ #47	Casey Wilson <i>Psychology</i>	Can Corrections Reduce Eyewitness Suggestibility?: The Explanatory Role as a Determinant of Resistance to Correction	23
Poster Session~ #37	Katelyn Wulff <i>Political Science</i>	The Availability of Dental Care for Wisconsin’s Impoverished: Effects of the Urban-Rural Divide	19
Poster Session~ #46	Ashley Xiong <i>Psychology</i>	The Impact of Processing Style on Susceptibility to Post-Event Misinformation	23
Poster Session ~ #7	Doua Yang ^{†*} <i>Biology</i>	Brain structure as a Novel Indicator of Pheromone Use in Longhorned Beetles (Coleoptera: Cerambycidae)	6
Poster Session ~ #8	Bailey Young <i>Biology</i>	Cranial Shape Variation within “True Dolphins” (Delphininae)	6